December 20, 2005

Retirement Board Arizona State Retirement System 3300 North Central Avenue 14<sup>th</sup> Floor Phoenix, Arizona 85012

Dear Retirement Board Members:

#### Actuarial Valuation of the Plan as of June 30, 2005

We certify that the information contained in the attached 2005 actuarial valuation report is accurate and fairly presents the actuarial position of the Arizona State Retirement Plan (the Plan) as of June 30, 2005.

We have made all calculations for this report in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, the report's results comply with the requirements of the Arizona Constitution and statutes and, where applicable, the Internal Revenue Code, the Employee Retirement Income Security Act of 1974 (ERISA), and the Statements of the Governmental Accounting Standards Board. The undersigned actuaries are independent. They are both Enrolled Actuaries and Fellows of the Society of Actuaries. Eva Yum is a Fellow of the Canadian Institute of Actuaries and Charlie Chittenden is a member of the American Academy of Actuaries. Both are experienced in performing valuations for large public retirement systems.

#### **Actuarial Valuations**

The primary purpose of the valuation report is to determine the required member and employer contribution rates, to describe the current financial condition of the Plan, and to analyze changes in the Plan's condition. In addition, the report provides information that ASRS requires in connection with Governmental Accounting Standards Board Statement Numbers 25 and 43 (GASB Nos. 25 and 43), and it summarizes census data.

Valuations are performed annually, as of June 30, the last day of both the Plan year and ASRS's fiscal year.

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#### **Funding Objectives**

The actuarial valuation calculates the contribution rates payable by members and participating employers. These rates, when applied to payroll, yield contribution amounts sufficient to provide for the normal cost and to amortize the Unfunded Actuarial Accrued Liability (UAAL) over the period specified in the statutes. The rates calculated in even-numbered years are in effect for the next two Plan years. For example, the rate calculated in the June 30, 2004 valuation report (7.75% for each member and each employer) would have applied in the fiscal years beginning July 1, 2005, and July 1, 2006. (Legislative action changed the rates in these two years.) The rates calculated in odd-numbered years are purely advisory – they never take effect.

#### Funding Progress

The actual contribution rate in fiscal 2004 and 2005 is 5.20% for each member and each employer, as the 2002 valuation report calculated. The 2004 valuation calculates a rate of 7.75%, to become effective July 1, 2005. The Legislature adopted a stair-step approach to increasing contribution rates, and set the rate at 6.9% for fiscal 2006 and 8.6% for fiscal 2007. This 2005 valuation calculates a hypothetical rate of 8.70%. These rates do not include contributions to the LTD program. Actual contributions have matched the calculated contributions in recent years and we assume that members and employers will, except for fiscal 2006 and 2007, continue to contribute the actuarially determined amounts. Contributing these amounts ensures the realization of funding objectives.

Section 38-737 specifies that the UAAL is to be amortized over a rolling 30-year period.

#### **Benefit Provisions**

This valuation reflects the following changes in Plan provisions:

- The legislature extended the temporary rural health insurance premium benefit to Medicare eligible retirees who live in Arizona counties not served by an HMO.
- 2 The legislature pegged the contribution rate, for each active member and each employer, to be 6.9% for fiscal 2006 and 8.6% for fiscal 2007. After fiscal 2007, contribution rates are to be determined annually.

Section 11 gives details of benefit provisions.

#### Assumptions and Methods

We performed an experience study for the five-year period ended June 30, 2002, and recommended assumption changes based on the findings. On November 21, 2003, the Board adopted our recommended actuarial assumptions, to be effective June 30, 2003.

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On November 15, 2002, the Board adopted a change in the method of valuing actuarial assets – namely, the Board removed the requirement that actuarial assets be within 20% of market value and prospectively changed the period for recognizing investment gains or losses from five to ten years. Section 9 of this report provides details of the assumptions and methods. The assumptions are internally consistent and are reasonably based on the actual experience of the Plan. These assumptions are in full compliance with GASB Nos. 25 and 43.

#### Data

ASRS staff supplied census data for retired, active, and inactive participants as of June 30, 2005. We have not audited these data, but have examined them for reasonableness and consistency with the prior year's data. ASRS staff also supplied asset information.

#### Trend Data and Supporting Schedules

ASRS prepared all trend data schedules in the financial section of ASRS's Comprehensive Annual Financial Report (CAFR). ASRS also prepared all supporting schedules in the actuarial section of the CAFR.

We look forward to discussing this report with you at your convenience.

Sincerely,

Charles E. Chittenden, FSA, MAAA, EA

Principal and Consulting Actuary

Charle & Chittender

Eva S. Yum, FSA, EA

Eva Y

**Director and Consulting Actuary** 

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### **Executive Summary**

Attached is a table summarizing the key results of the June 30, 2005, actuarial valuation of the Arizona State Retirement Plan (the Plan).

### **Demographic Changes**

The number of active members has increased from 205,482 to 212,202, a 3.3% increase. Valuation payroll has increased 7.3% from \$7.486 billion to \$8.032 billion. Both of these increases are larger than those the Plan has experienced in the recent past.

#### **Gains and Losses**

The valuation of the Plan reflects a loss on the investment return on the actuarial value of assets of \$1,100 million. This loss is not due to the investment experience of fiscal 2005. Rather it is due to delayed recognition of losses that have occurred in earlier years. Investment losses are now recognized in actuarial assets over a ten-year period. The yield rate on actuarial assets for the 2005 fiscal year is 3.20% on the pension assets (401(a)) and 4.99% on the health supplement assets (401(h)), compared to last year's returns of 2.46% and 4.53%, respectively. The actuarially assumed rate of return is 8%. There was also a small loss of \$435 million on the liability experience, mostly due to the delay in implementing new contribution rates and to the increased value of contribution refunds for withdrawing members.

#### **Changes in Plan Provisions**

This valuation reflects the following changes in Plan provisions:

- The legislature extended the temporary rural health insurance premium benefit for 2 years from July 1, 2005 to June 30, 2007, to Medicare eligible retirees who live in Arizona counties not served by an HMO.
- The legislature pegged the Plan contribution rate, for each active member and each employer, to be 6.9% for fiscal 2006 and 8.6% for fiscal 2007. After fiscal 2007, contribution rates are to be determined annually.

#### **Effect on Contribution Rates and Funded Status**

This is an odd-year valuation and the contribution rate calculated in this valuation is for information purposes only and will not become effective. The investment loss on actuarial assets, the loss on liability experience, and the change in plan provisions have caused the Plan's calculated contribution rate to increase. The net result is that the calculated contribution rate will increase from a rate of 7.75% determined in the 2004 valuation report to a rate of 8.70% in this report. Later sections of this report give a detailed explanation of the change in contribution rates.

The recognition of losses has caused the funded status of the total plan (the ratio of actuarial assets to actuarial accrued liabilities) to decrease from 91.2% as of June 30, 2004, to 85.3% as of June 30, 2005. The unfunded actuarial accrued liability has grown during this period from \$2,275.4 million to \$4,106.1 million.

The calculated contribution rate has increased to a level higher than the Plan's normal cost. If the Plan had no unfunded actuarial accrued liability, the contribution rate would be the normal cost rate, i.e., 6.58%, instead of 8.70%.

#### **Reserve for Permanent Benefit Increases**

Since the actuarial investment return (on the actuarial value of assets) of 3.20% is below 8% for fiscal year 2005, there are no additional "Excess Investment Earnings" to be allocated for Permanent Benefit Increases (PBIs). After granting the PBI effective July 1, 2005, there are no more assets in the excess investment earnings reserve.

#### **Outlook for Contribution Rates and Permanent Benefit Increases**

Our forecast shows contribution rates continuing to increase, assuming future experience matches our assumptions, as follows:

	Contribution Rate	Contribution Rate
Effective Date	for Each Member	for Each Employer
7/1/2006	8.60%	8.60%
7/1/2007	9.09%	9.09%
7/1/2008	9.36%	9.36%
7/1/2009	9.60%	9.60%
7/1/2010	9.81%	9.81%
7/1/2011	10.01%	10.01%
7/1/2012	10.19%	10.19%
7/1/2013	10.13%	10.13%
7/1/2014	9.99%	9.99%
7/1/2015	9.95%	9.95%

Even if annual returns on the market value of Plan assets are 9% per annum, we project no Permanent Benefit Increases after the July 1, 2005, increase until after 2012.

The key results of this valuation, compared to those of last year's valuation, are as follows (dollar amounts, other than averages for individual members, are in millions):

	2004	2005
Demographic Information		
Number of Members		
Actives	205,482	212,202
Inactives	136,435	149,768
Receiving benefits	69,049	73,853
Disabled (LTD)	4,684	4,939
Total	415,650	440,762
Covered projected payroll	\$7,486	\$8,032
Average age for actives	44.7	44.7
Average pay for actives	\$34,372	\$37,853
<ul> <li>Average monthly benefit for retirees and beneficiaries</li> </ul>	\$1,487	\$1,509
Average age for retirees and beneficiaries	69.3	69.6
Financial Information		
Total normal cost rate	13.02%	13.16%
Unfunded actuarial accrued liability	\$2,275.4	\$4,106.1
• Funded Status of pension (401(a))	92.5%	86.1%
• Funded Status of health (401(h))	69.7%	70.6%
Funded Status of total plan	91.2%	85.3%
Calculated contribution rate	7.75%	8.70%
Statutory contribution rate	7.75%	8.70%
<ul> <li>Employee and employer contributions</li> </ul>	\$866.0	\$946.7
<ul> <li>Benefit and refunded payments</li> </ul>	\$1,326.4	\$1,510.7
Administrative expenses	\$23.6	\$22.2
<ul> <li>Net external cash flow</li> </ul>	\$(484.1)	\$(586.2)
• PBI		
Additional liability for July 1 <sup>st</sup> PBI	\$381.7	\$305.5
Percentage increase	4.0%	2.8%
Per year of service factor	\$35.30	\$25.90
PBI reserve before July 1st PBI	\$305.5	\$0.0

	2004	2005
Actuarial gains (losses)		
Assets	\$(1,265)	\$(1,100)
Liability experience	\$(132)	\$(435)
Legislative and administrative changes	\$97	\$(7)
Assumption changes	N/A	N/A
Method change	N/A	N/A
Total	\$(1,300)	\$(1,542)
• GASB 25 disclosure (401(a) pension only)		
Actuarial Accrued Liability (AAL)	\$24,506	\$26,486
Unfunded AAL (Surplus)	\$1,847	\$3,678
Actuarial Value of Assets as % of AAL	92.5%	86.1%
Unfunded AAL (Surplus) as % of payroll	24.7%	45.8%
• GASB 43 disclosure (401(h) plan only)		
Actuarial Accrued Liability (AAL)	N/A	\$1,456
Unfunded AAL (Surplus)	N/A	\$428
Actuarial Value of Assets as % of AAL	N/A	70.6%
Unfunded AAL (Surplus) as % of payroll	N/A	5.3%
Changes in contribution rate:		
Item	Contribution Rate	Change in Rate
1. 2004 valuation	7.76%	_
2. Delay in contribution rate change	7.83%	+.07%
3. 2004 / 2005 liability experience	8.12%	+.29%
4. 2004 / 2005 asset experience	8.68%	+.56%
5. Legislative changes	8.68%	+.00%
6. Rounding to the nearest 0.05%	8.70%	+.02%

### Split of Total Contribution Rate:

Item	401(a) Account	401(h) Account	Total
1. Employee Contribution Rates	8.70%	0.00%	8.70%
2. Employer Contribution Rates	7.62%	<u>1.08%</u>	8.70%
3. Total Contribution Rates	16.32%	1.08%	17.40%

## • Asset Amounts, Returns on Assets, and Funded Status

	20	2004 20		
Asset Amounts	Market Value	Actuarial Value	Market Value	Actuarial Value
Pension 401(a)	\$19,941	\$22,659	\$21,029	\$22,808
Health 401(h)	\$ 808	\$ 984	\$ 872	\$1,028
Total Plan	\$20,749	\$23,643	\$21,901	\$23,836
Asset Yields	Market Value	Actuarial Value	Market Value	Actuarial Value
Pension 401(a)	17.37%	2.46%	8.42%	3.20%
Health 401(h)	16.39%	4.53%	8.42%	4.99%
Total Plan	17.33%	2.55%	8.42%	3.27%
Funded Status				
Pension 401(a)	81.4%	92.5%	79.4%	86.1%
Health 401(h)	57.2%	69.7%	59.8%	70.6%
Total Plan	80.1%	91.2%	78.4%	85.3%

#### Introduction

The primary purpose of the actuarial valuation is to determine the required member and employer contribution rates in accordance with the actuarial funding policy specified in Section 38-737 of the Arizona Revised Statues, to describe the current financial condition of the Plan, and to analyze changes in the Plan's condition. In addition, the report provides information that ASRS requires in connection with Governmental Accounting Standards Board Statement Numbers 25 and 43 (GASB Nos. 25 and 43), and it summarizes census data. The valuation covers both the 401(a) pension plan and the 401(h) health supplement plan.

The actuarial valuation of the Plan as of June 30, 2005, determines a hypothetical contribution rate for fiscal years 2007 and 2008. Based on the results of the 2004 and 2005 Plan valuations, the contribution rate for the fiscal year beginning July 1, 2006, would increase from the 7.75% rate determined in the 2004 report to 8.70% of compensation. Legislative action has fixed the rates for fiscal 2006 and 2007 at 6.90% and 8.60%, respectively.

#### **Assets**

This section shows the change in the assets during the year, calculates the yield on assets for the Plan, and determines the actuarial value of assets under the asset valuation method that was adopted on November 15, 2002, by Board action.

#### **Market Value of Assets**

The market value of assets represents the fair market value of assets as of June 30, 2004, and June 30, 2005, as reported by ASRS.

#### **Actuarial Value of Assets**

The actuarial value of assets method starts with the market value of assets and is modified by the difference between expected investment return and actual investment return. Effective June 30, 2002, only 10% of this difference is recognized in the valuation immediately following the year in which it occurs. The remaining 90% is deferred until future valuations, with an additional 10% recognized in each subsequent valuation, until 100% of the difference is recognized in the tenth year. The Board adopted this actuarial valuation method on November 15, 2002. The phase-in period was five-years prior to June 30, 2002.

The market value of assets as of June 30, 2005, was \$21,901,031,290 and the actuarial value of assets under this method was \$23,836,519,123, or about 109% of market value as of June 30, 2005. The combined 401(a) and 401(h) deferral amount for the year is -\$1.935 billion. That is, \$1.935 billion of investment losses will be recognized in future valuations.

#### **Asset Returns**

To determine the estimated yield for the year, the traditional insurance company measurement of yield has been used. This equation is:

$$2I / (A + B - I)$$
.

In this equation, I is net investment income for the asset valuation method, A is the beginning of the year asset value, and B is the end of the year asset value. This equation essentially assumes that income, revenue, and expenditures are evenly distributed throughout the year.

During the twelve months ended June 30, 2005, the Plan has an estimated yield of 3.20% on the 401(a) actuarial assets and 4.99% on the 401(h) actuarial assets for the year, compared to the actuarial assumed rate of 8%. The Plan assets had an investment return of 8.42% on the 401(a) market assets and 8.42% on the 401(h) market assets.

The Plan's assets are split between the retirement program (401(a)) and the health premium supplement program (401(h)) as follows:

Item	401(a) Account	401(h) Account	Total
1. Market Value of Assets	\$21,029,394,547	\$871,636,743	\$21,901,031,290
2. Actuarial Value of Assets	\$22,808,290,293	\$1,028,228,830	\$23,836,519,123

Exhibit 3.1a - Change in Assets During the Year (401(a) Only)

	Year Ending June 30, 2004	Year Ending June 30, 2005
1. Market value, beginning of year	\$17,418,714,865	\$19,940,524,999
<ul> <li>2. Contributions and receipts during the year</li> <li>a. Employee contributions</li> <li>b. Employer contributions</li> <li>c. Member reimbursements of employee contributions</li> </ul>	377,002,851 297,268,473 12,032,535	403,269,191 317,919,116 140,158,838
<ul><li>d. Member reimbursements of employer contributions</li><li>e. Other miscellaneous receipts</li></ul>	0	0
f. Total	786,303,859	861,347,145
<ol><li>Investment income for the year (net of investment expenses)</li></ol>	3,007,854,981	1,676,324,824
<ul><li>4. Benefit payments</li><li>a. Retirement and disability benefits</li><li>b. Death benefits</li><li>c. Total</li></ul>	(1,194,978,543) (13,726,243) (1,208,704,786)	(1,360,661,231) (18,402,496) (1,379,063,727)
5. Refunds of contributions	(34,006,055)	(42,026,148)
6. Employer adjustments	0	0
7. Administrative expenses	(22,791,105)	(21,373,984)
8. Miscellaneous	(6,416,693)	(3,530,403)
<ul> <li>9. Other</li> <li>a. Transfers from Plan</li> <li>b. Reimbursements and lump sums</li> <li>c. Transfers to PSPRS</li> <li>d. Increase System retired reserves</li> <li>e. Employer contributions released</li> <li>f. Supplemental credits</li> <li>g. Transfers from System</li> <li>h. Total</li> </ul>	1,905,568 0 (2,335,638) 0 0 N/A 0 (430,070)	1,773,298 0 (4,581,457) 0 0 N/A 0 (2,808,159)
10. Change in audited assets, beginning of year	0	0
11. Total change in market value	2,521,810,131	1,088,869,548
12. Market value, end of year	\$19,940,524,999	\$21,029,394,547

Exhibit 3.1b - Change in Assets During the Year (401(h) Only)

	Year Ending June 30, 2004	Year Ending June 30, 2005
1. Market value, beginning of year	\$ 698,106,059	\$ 808,048,248
2. Contributions and receipts during the year		
a. Employee contributions	0	0
b. Employer contributions	79,662,201	85,350,074
<ul> <li>c. Member reimbursements of employee contributions</li> </ul>	0	0
<ul> <li>d. Member reimbursements of employer contributions</li> </ul>	0	0
e. Other miscellaneous receipts	0	0
f. Total	79,662,201	85,350,074
<ol><li>Investment income for the year (net of investment expenses)</li></ol>	114,905,472	68,749,368
4. Benefit payments	(83,680,261)	(89,602,086)
5. Refunds of contributions	0	0
6. Employer adjustments	0	0
7. Administrative expenses	(853,105)	(875,018)
8. Miscellaneous	(92,117)	(33,844)
9. Other	0	0
10. Change in audited assets, beginning of year	0	0
11. Total change in market value	109,942,190	63,588,494
12. Market value, end of year	\$ 808,048,248	\$ 871,636,743

Exhibit 3.2a - Calculation of Excess Investment Income for Actuarial Value of Assets (401(a) Only)

		Plan Year Ending June 30,				
Item	2002	2003	2004	2005		
<ol> <li>Calculation of unrealized gain/(loss) for year, based on market value</li> </ol>						
a. Market value over book value (end of year)	\$ (751,653,970)	N/A	N/A	N/A		
b. Market value over book value (beginning of yea	r) 1,915,917,421)	N/A	N/A	N/A		
<ul> <li>c. Unrealized gain/(loss) during the year</li> </ul>	(2,667,571,391)	N/A	N/A	N/A		
<ol><li>Net investment income for year (based on market v since 2003, book value in other years)</li></ol>	/alue 325,570,564	\$ 339,460,887	\$ 3,007,854,981	\$ 1,676,324,824		
3. Expenses and fees for year	15,375,486	20,538,703	22,791,105	21,373,984		
<ol> <li>Actual net investment income based on market value of assets (Item 1.c. + Item 2 - Item 3)</li> </ol>	ue (2,357,376,313)	318,922,184	2,985,063,876	1,654,950,840		
5. Market value of assets, beginning of year	20,820,944,803	17,812,242,996	17,418,714,865	19,940,524,999		
6. Contributions during year	317,734,923	371,265,972	786,303,859	861,347,145		
7. Benefits paid during year	(910,299,052)	(1,042,295,182)	(1,208,704,786)	(1,379,063,727)		
8. Refunds paid during year	(42,765,105)	(34,948,463)	(34,006,055)	(42,026,148)		
9. Expenses for year	0	0	0	0		
10. LTD management fees for year	0	0	0	0		
11. Other changes and net transfers	(7,149,384)	(5,472,629)	(6,846,763)	(6,338,562)		
12. Expected net investment income at 8%						
a. Market value of assets, beginning of year	1,665,675,584	1,424,979,440	1,393,497,189	1,595,242,000		
b. Contributions	12,709,397	14,850,639	31,452,154	34,453,886		
c. Benefits	(39,446,292)	(45,166,125)	(52,377,207)	(59,759,428)		
d. Refunds	(1,710,604)	(1,437,939)	(1,360,242)	(1,681,046)		
e. Expenses	0	0	0	0		
f. LTD management fees	0	0	0	0		
g. Other	(285,975)	(218,905)	(273,871)	(253,542)		
h. Total	1,636,942,109	1,393,007,110	1,370,938,023	1,568,001,870		
13. Excess investment income for year (Item 4 - Item 1	2.h.) \$ (3,994,318,422)	\$ (1,074,084,926)	\$ 1,614,125,853	\$ 86,948,970		

Exhibit 3.2b - Calculation of Excess Investment Income for Actuarial Value of Assets (401(h) Only)

	Plan Year Ending June 30,						
Item	_	2002		2003	 2004		2005
<ol> <li>Calculation of unrealized gain/(loss) for year, based on market value</li> </ol>							
a. Market value over book value (end of year)	\$	(161,063,629)		N/A	N/A		N/A
b. Market value over book value (beginning of year)		63,030,160		N/A	N/A		N/A
c. Unrealized gain/(loss) during the year		(224,093,789)		N/A	N/A		N/A
<ol><li>Net investment income for year (based on market value since 2003, book value in other years)</li></ol>		16,944,493	\$	10,393,667	\$ 114,905,472	\$	68,749,368
3. Expenses and fees for year		0		857,269	853,105		875,018
<ol> <li>Actual net investment income based on market value of assets (Item 1.c. + Item 2 - Item 3)</li> </ol>		(209,149,296)		9,536,398	114,052,367		67,874,350
5. Market value of assets, beginning of year		1,051,971,617		768,846,996	698,106,059		808,048,248
6. Contributions during year		4,040,650		4,256,357	79,662,201		85,350,074
7. Benefits paid during year		(75,989,584)		(84,533,693)	(83,680,261)		(89,602,086)
8. Refunds paid during year		0		0	0		0
9. Expenses for year		0		0	0		0
10. LTD management fees for year		0		0	0		0
11. Other changes and net transfers		0		0	(92,117)		(33,844)
12. Expected net investment income at 8%							
a. Market value of assets, beginning of year		84,157,729		61,507,760	55,848,485		64,643,860
b. Contributions		161,626		170,254	3,186,488		3,414,003
c. Benefits		(3,292,882)		(3,663,127)	(3,626,145)		(3,882,757)
d. Refunds		0		0	0		0
e. Expenses		0		0	0		0
f. LTD management fees		0		0	0		0
g. Other		0		0	 (3,685)	-	(1,354)
h. Total		81,026,473		58,014,887	55,405,143		64,173,752
13. Excess investment income for year (Item 4 - Item 12.h.)	\$	(288,175,769)	\$	(48,478,489)	\$ 58,647,224	\$	3,700,598

Exhibit 3.3a - Development of Actuarial Value of Assets (401(a) Only)

Item	Valuation as of June 30, 2004	Valuation as of June 30, 2005
<ol> <li>Excess (shortfall) of investment income for current year and previous three years (see Table 9a):</li> </ol>		
a. Current year	\$1,614,125,853	\$ 86,948,970
b. Current year - 1	(1,074,084,926)	1,614,125,853
c. Current year - 2	(3,994,318,422)	(1,074,084,926)
d. Current year - 3	(2,581,468,783)	(3,994,318,422)
Deferral of excess (shortfall) of investment income for:		
a. Current year (90% deferral)	\$1,452,713,268	\$ 78,254,073
b. Current year - 1 (80% deferral)	(859,267,941)	1,291,300,682
c. Current year - 2 (70% deferral)	(2,796,022,896)	(751,859,448)
d. Current year - 3 <sup>1</sup>	(516,293,757)	(2,396,591,053)
e. Total deferred for year	\$(2,718,871,326)	\$(1,778,895,746)
3. Market value of plan assets, end of year	\$19,940,524,999	\$21,029,394,547
4. Actuarial value of plan assets, end of year (Item 3 - Item 2.e.)	\$22,659,396,325	\$22,808,290,293

<sup>&</sup>lt;sup>1</sup> 20% deferral for 6/30/2004, 60% deferral for 6/30/2005.

Exhibit 3.3b - Development of Actuarial Value of Assets (401(h) Only)

Item	Valuation as of June 30, 2004	Valuation as of June 30, 2005
Excess (shortfall) of investment income for current year and previous three years (see Table 9b):		
a. Current year	\$ 58,647,224	\$ 3,700,598
b. Current year - 1	(48,478,489)	58,647,224
c. Current year - 2	(288,175,769)	(48,478,489)
d. Current year - 3	61,315,688	(288,175,769)
Deferral of excess (shortfall) of investment income for:		
a. Current year (90% deferral)	\$ 52,782,502	\$ 3,330,538
b. Current year - 1 (80% deferral)	(38,782,791)	46,917,779
c. Current year - 2 (70% deferral)	(201,723,039)	(33,934,942)
d. Current year - 3 <sup>1</sup>	12,263,138	(172,905,462)
e. Total deferred for year	\$ (175,460,190)	\$ (156,592,087)
3. Market value of plan assets, end of year	\$ 808,048,248	\$ 871,636,743
<ol> <li>Actuarial value of plan assets, end of year (Item 3 - Item 2.e.)</li> </ol>	\$ 983,508,438	\$1,028,228,830

<sup>&</sup>lt;sup>1</sup> 20% deferral for 6/30/2004, 60% deferral for 6/30/2005.

Exhibit 3.4a - Actual Versus Expected Actuarial Assets (401(a) Only)

Item	Valuation as of June 30, 2004	Valuation as of June 30, 2005
Actuarial assets, beginning of year	\$22,572,007,289	\$22,659,396,325
2. Total contributions during year	786,303,859	861,347,145
3. Benefits paid during year	(1,208,704,786)	(1,379,063,727)
4. Refunds paid during year	(34,006,055)	(42,026,148)
5. Expenses (other than investment) for the year	0	0
6. Other changes and net transfers	(6,846,763)	(6,338,562)
7. Assumed net investment income at 8%		
a. Beginning of year assets	1,805,760,583	1,812,751,706
b. Contributions	31,452,154	34,453,886
c. Benefits	(52,377,207)	(59,759,428)
d. Refunds	(1,360,242)	(1,681,046)
e. Expenses	0	0
f. Other	(273,871)	(253,542)
g. Total	\$1,783,201,417	\$1,785,511,576
Expected actuarial assets, end of year (Sum of Items 1 through 7)	\$23,891,954,961	\$23,878,826,609
9. Actual actuarial assets, end of year	\$22,659,396,325	\$22,808,290,293
10. Asset gain/(loss) for year (Item 9 - Item 8)	\$(1,232,558,636)	\$(1,070,536,316)

Exhibit 3.4b - Actual Versus Expected Actuarial Assets (401(h) Only)

Item	Valuation as of June 30, 2004	Valuation as of June 30, 2005
Actuarial assets, beginning of year	\$ 944,891,222	\$ 983,508,438
2. Total contributions during year	79,662,201	85,350,074
3. Benefits paid during year	(83,680,261)	(89,602,086)
4. Refunds paid during year	0	0
5. Expenses (other than investment) for the year	0	0
6. Other changes and net transfers	(92,117)	(33,844)
7. Assumed net investment income at 8%		
a. Beginning of year assets	75,591,298	78,680,675
b. Contributions	3,186,488	3,414,003
c. Benefits	(3,626,145)	(3,882,757)
d. Refunds	0	0
e. Expenses	0	0
f. Other	(3,685)	(1,354)
g. Total	\$ 75,147,956	\$ 78,210,567
8. Expected actuarial assets, end of year (Sum of Items 1 through 7)	\$1,015,929,001	\$1,057,433,149
9. Actual actuarial assets, end of year	\$ 983,508,438	\$1,028,228,830
10. Asset gain/(loss) for year (Item 9 - Item 8)	\$ (32,420,563)	\$ (29,204,319)

## Exhibit 3.5a - Estimate of Yields for the Year (401(a) Only)

	Basis of A	ssets
ltem	Market Value	Actuarial Value
Net investment income for the year (including net realized gains and net of investment expenses)	\$ 1,676,324,824	\$ 736,349,244
2. Administrative expenses for the year	\$ 21,373,984	\$ 21,373,984
3. Net investment income for the asset valuation method (Item 1 - Item 2 = I)	\$ 1,654,950,840	\$ 714,975,260
4. Beginning of year asset value (A)	\$ 19,940,524,999	\$ 22,659,396,325
5. End of year asset value (B)	\$ 21,029,394,547	\$ 22,808,290,293
6. Estimated yield based on 2I / (A + B - I)	8.42%	3.20%

## Exhibit 3.5b - Estimate of Yields for the Year (401(h) Only)

	Basis	of Asse	ets
Item	 Market Value		Actuarial Value
Net investment income for the year (including net realized gains and net of investment expenses)	\$ 68,749,368	\$	49,881,266
2. Administrative expenses for the year	\$ 875,018	\$	875,018
3. Net investment income for the asset valuation method (Item 1 - Item 2 = I)	\$ 67,874,350	\$	49,006,248
4. Beginning of year asset value (A)	\$ 808,048,248	\$	983,508,438
5. End of year asset value (B)	\$ 871,636,743	\$	1,028,228,830
6. Estimated yield based on 2I / (A + B - I)	8.42%		4.99%

**Exhibit 3.6 - History of Cash Flow** 

Expenditures During the Year

			Expenditures During the Year						_				
Year Ending June 30,	_	Contributions for the Year	 Benefit Payments	_	Refunds of Contributions	-	Administrative Expenses <sup>1</sup>		Total	_	External Cash Flow for the Year	End of Year Market Value of Assets	External Cash Flow as Percentage of Market
1988	\$	226,391,986	\$ (184,014,825)	\$	(32,440,739)	\$	(1,858,980)	\$	(218,314,544)	\$	8,077,442	\$ 6,354,326,735	0.1%
1989		309,456,756	(211,706,362)		(32,763,953)		(2,796,196)		(247,266,511)		62,190,245	7,314,715,626	0.9%
1990		129,780,928	(291,865,604)		(31,871,455)		(3,016,679)		(326,753,738)		(196,972,810)	7,784,051,423	(2.5%)
1991		267,194,502	(313,739,121)		(27,329,212)		(4,889,991)		(345,958,324)		(78,763,822)	8,298,777,637	(0.9%)
1992		265,305,634	(351,219,516)		(24,689,694)		(6,282,138)		(382,191,348)		(116,885,714)	9,375,565,917	(1.2%)
1993		278,158,497	(414,519,290)		(21,419,534)		(5,774,866)		(441,713,690)		(163,555,193)	10,712,781,278	(1.5%)
1994		256,841,228	(445,763,795)		(22,516,743)		(5,222,224)		(473,502,762)		(216,661,534)	10,680,073,807	(2.0%)
1995		326,663,838	(484,729,970)		(24,364,930)		(5,826,425)		(514,921,325)		(188,257,487)	12,356,078,492	(1.5%)
1996 <sup>2</sup>		299,724,778	(510,236,051)		(26,307,534)		(5,345,583)		(541,889,168)		(242,164,390)	13,917,637,400	(1.7%)
1997 <sup>2</sup>		309,394,448	(550,078,719)		(30,838,244)		(6,740,459)		(587,657,422)		(278,262,974)	16,397,938,329	(1.7%)
1998 <sup>2</sup>		321,349,998	(598,804,992)		(29,749,907)		(8,386,901)		(636,941,800)		(315,591,802)	19,389,956,806	(1.6%)
1999 <sup>2</sup>		347,970,526	(652,854,456)		(26,089,213)		(9,932,871)		(688,876,540)		(340,906,014)	21,836,381,722	(1.6%)
2000 <sup>2</sup>		283,772,496	(723,611,965)		(64,976,507)		(10,775,218)		(799,363,690)		(515,591,194)	23,187,551,913	(2.2%)
2001 <sup>2</sup>		367,191,042	(828,545,637)		(91,824,591)		(9,843,046)		(930,213,274)		(563,022,232)	21,872,916,420	(2.6%)
2002 <sup>2</sup>		321,775,573	(986,288,636)		(42,765,105)		(15,375,486)		(1,044,429,227)		(722,653,654)	18,594,856,337	(3.9%)
2003 <sup>2</sup>		375,522,329	(1,126,828,875)		(35,948,463)		(21,395,972)		(1,184,173,310)		(808,650,981)	18,116,820,935	(4.5%)
2004 <sup>2</sup>		865,966,060	(1,292,412,047)		(34,006,055)		(23,644,210)		(1,350,062,312)		(484,076,252)	20,748,573,247	(2.3%)
2005 <sup>2</sup>		946,697,219	(1,468,665,813)		(42,026,148)		(22,249,002)		(1,532,940,963)		(586,243,744)	21,901,031,290	(2.7%)

<sup>1</sup> Including LTD management fees prior to 1996 2 401(a) assets and 401(h) assets combined

### **Actuarial Balance Sheet**

The results of the actuarial valuation of the Plan as of June 30, 2004, and June 30, 2005, are summarized in the actuarial balance sheet in Exhibit 4.1. The results for 2005 are based on the benefit provisions of the Plan as of June 30, 2005, as summarized in Section 11, and on the actuarial assumptions and methods shown in Section 9.

## **Exhibit 4.1 - Actuarial Balance Sheet**

## **ACTUARIAL ASSETS**

		June 30,				
			2004	2005		
ı	Present Assets At Actuarial Value:					
	1. Reserve for retired members and beneficiaries	\$	11,374,777,957	\$ 12,831,725,476		
	2. Reserve for disabled members		348,086,799	374,502,413		
	3. Reserve for other-than-plan retirees		11,867,731	11,200,495		
	<ul><li>4. Reserve for PBI COLAs</li><li>(a) Reserve for July 1st COLA</li><li>(b) Reserve for future COLAs</li></ul>		381,740,815 305,477,344	305,477,344 0		
	<ul><li>5. Employee contributions</li><li>(a) Plan members</li><li>(b) System members</li></ul>		3,407,611,954 N/A	3,717,945,957 N/A		
	<ul><li>6. Employer contributions</li><li>(a) Plan</li><li>(b) System</li></ul>		3,189,664,820 N/A	3,455,209,735 N/A		
	<ul><li>7. Other miscellaneous</li><li>(a) ASRS building and land</li><li>(b) Other</li></ul>		0	0 0		
	8. Additional assets		1,729,345,827	1,204,969,870		
	9. Total present assets	\$	20,748,573,247	\$ 21,901,031,290		
	Adjustment to book value due to actuarial asset valuation method		2,894,331,516	1,935,487,833		
	11. Total actuarial value of present assets	\$	23,642,904,763	\$ 23,836,519,123		
II	Prospective Assets:  12. Unfunded actuarial accrued liability		2,275,424,742	4,106,082,162		
	13. TOTAL ACTUARIAL ASSETS	\$	25,918,329,505	\$ 27,942,601,285		

## **Exhibit 4.1 - Actuarial Balance Sheet**

## **ACTUARIAL LIABILITIES**

		June 30,				
			2004		2005	
	Present Value of Benefits Presently Being					
III	Paid:  (a) Benefits for retired members and  14. beneficiaries  (b) Health insurance premium supplement	\$	10,878,680,558 496,097,399	\$	12,316,501,912 515,223,564	
	15. (a) Benefits for disabled members (b) Health insurance premium supplement		319,249,085 28,837,714		345,385,807 29,116,606	
	<ul><li>(a) Benefits for other-than-plan</li><li>16. participants</li><li>(b) Health insurance premium supplement</li></ul>		3,618,883 8,248,848		3,255,636 7,944,859	
	Total present value of benefits presently 17. being paid	\$	11,734,732,487	\$	13,217,428,384	
IV	Present Value of Benefits Payable In the Future  To Present Members:  18. Active members					
	<ul> <li>(a) Service retirement benefits</li> <li>(b) Health insurance premium supplement</li> <li>(c) Disability retirement benefits</li> <li>(d) Pre-retirement death benefits</li> <li>(e) Withdrawal benefits</li> <li>(f) Total active members</li> </ul>	\$	10,893,474,050 878,900,986 214,579,320 248,143,268 342,756,931 12,577,854,555	\$	11,605,799,504 904,119,388 226,127,610 266,206,539 387,484,834 13,389,737,875	
	19. Inactive members		918,524,304		1,029,957,682	
	20. Total	\$	25,231,111,346	\$	27,637,123,941	
V	Other Liabilities And Reserves: 21. Reserve for other miscellaneous liabilities and reserves		0		0	
	22. Reserve for PBI COLAs	\$	687,218,159	\$	305,477,344	
	23. TOTAL ACTUARIAL LIABILITIES	\$	25,918,329,505	\$	27,942,601,285	

**Exhibit 4.2 - Relative Size of Unfunded Actuarial Accrued Liability** 

	Relative to Actua Covered Payroll			uarial Relative to Actuarial Value of Present Assets			Relative to Total Actuarial Liabilities			
Year Ending June 30,	Unfunded Actuarial Accrued Liability in Millions	Covered Payroll in Millions	Percent of Covered Payroll	Present Assets in Millions	Percent of Present Assets	Actuarial Liabilities in Millions	Percent of Actuarial Liabilities			
1980	\$ 436	\$ 1,373	31.8%	\$ 1,631	26.7%	\$ 3,400	12.8%			
1981	364	1,567	23.2%	1,982	18.4%	3,946	9.2%			
1982	472	1,734	27.2%	2,255	20.9%	4,547	10.4%			
1983	301	1,841	16.3%	2,777	10.8%	5,009	6.0%			
1984	248	1,906	13.0%	3,174	7.8%	5,351	4.6%			
1985	301	2,120	14.2%	3,654	8.2%	5,874	5.1%			
1986	95	2,361	4.0%	4,538	2.1%	6,718	1.4%			
1987	(129)	2,478	(5.2%)	5,531	(2.3%)	7,636	(1.7%)			
1988	(292)	2,818	(10.3%)	6,000	(4.9%)	8,251	(3.5%)			
1989	(510)	2,994	(17.0%)	6,686	(7.6%)	6,176	(8.3%)			
1990	(552)	3,212	(17.2%)	7,297	(7.6%)	6,745	(8.2%)			
1991	(654)	3,453	(18.9%)	7,822	(8.4%)	7,168	(9.1%)			
1992	(632)	3,616	(17.5%)	8,842	(7.1%)	8,210	(7.7%)			
1993	(849)	3,748	(22.7%)	9,770	(8.7%)	8,921	(9.5%)			
1994	(872)	4,126	(21.1%)	10,540	(8.3%)	9,668	(9.0%)			
1995	(1,217)	4,432	(27.5%)	11,521	(10.6%)	10,304	(11.8%)			
1996	(1,468)	4,632	(31.7%)	12,579	(11.7%)	11,111	(13.2%)			
1997	(1,784)	4,836	(36.9%)	14,169	(12.6%)	12,385	(14.4%)			
1998	(2,530)	5,164	(49.0%)	16,168	(15.6%)	13,638	(18.6%)			
1999	(2,639)	5,488	(48.1%)	18,761	(14.1%)	16,122	(16.4%)			
2000	(3,578)	5,894	(60.7%)	21,127	(16.9%)	17,549	(20.4%)			
2001	(2,587)	6,357	(40.7%)	22,855	(11.3%)	20,269	(12.8%)			
2002	(1,036)	6,989	(14.8%)	23,623	(4.4%)	22,587	(4.6%)			
2003	787	7,297	10.8%	23,517	3.3%	24,304	3.2%			
2004	2,275	7,486	30.4%	23,643	9.6%	25,918	8.8%			
2005	4,106	8,032	51.1%	23,837	17.2%	27,943	14.7%			

### **Contribution Rates**

#### **Normal Cost**

Exhibit 5.1 indicates that the normal cost as of June 30, 2005, is 13.16% of pay, compared to 13.02% in the 2004 valuation. This normal cost is developed based on the prescribed Projected Unit Credit (PUC) actuarial valuation method. It includes both employer and member components.

#### **Summary of Cost Items**

Exhibit 5.2 compares a number of the key actuarial items for the 2005 valuation with the corresponding items for the 2004 valuation.

### **Contribution Rates**

The employer and member contribution rates are each determined as one-half of the percent of pay needed to pay the normal cost of the Plan and to amortize the Unfunded Actuarial Accrued Liability (UAAL). For the June 30, 2005, valuation, the normal cost of the Plan is 13.16% and the amortization of the UAAL is 4.20%. So the calculated employer and member rates are equal to:

$$\frac{1}{2}$$
 x (13.16% + 4.20%) = 8.68%.

The contribution rates are then rounded to the nearest 0.05% to 8.70% for each employee and employer.

If the UAAL of the Plan were eliminated, the employer and member rates would be:

$$\frac{1}{2}$$
 x (13.16% - 0.00%) = 6.58%.

This difference of 2.10% (i.e., 8.68% - 6.58%) is due totally to the UAAL of the Plan. Thus, the current UAAL of the Plan is equivalent to a 2.10% increases in the employer and member contribution rates determined by the 2005 valuation.

The member and employer contribution rates determined by the 2005 valuation are each 8.70% of compensation. Because of the separation of the health premium supplement into the 401(h) account, we must split the contribution rates into 401(a) and 401(h) portions. We have assumed that all member contributions will be contributed to the 401(a) account. This assumption is made to avoid any possible qualification problems due to refunds of employee contributions. The contribution rates may be allocated as shown below:

Item	401(a) Account	401(h) Account	Total
1. Member Contribution Rates	8.70%	0.00%	8.70%
2. Employer Contribution Rates	7.62%	1.08%	<u>8.70%</u>
3. Total Contribution Rates	16.32%	1.08%	17.40%

**Exhibit 5.1 - Analysis of Normal Cost by Component** 

	Normal Cost	as % of Pay
Benefit Component	2004	2005
1. Retirement benefits	10.27%	10.22%
2. Health insurance premium supplement	0.67%	0.64%
3. Disability benefits (Deferred Retirement)	0.39%	0.39%
4. Death benefits	0.31%	0.32%
5. Termination benefits		
a. Refunds	0.34%	0.40%
b. Vested deferred benefits	1.04%	1.19%
c. Total	1.38%	1.59%
6. Total	13.02%	13.16%

**Exhibit 5.2 - Summary of Cost Items** 

		Valuation as of June 30, 2004			Valuation as of June 30, 2005			
			Cost Item	Cost as % of Pay		Cost Item	Cost as % of Pay	
1.	Participants							
	a. Active members		205,482			212,202		
	b. Inactive members		136,435			149,768		
	c. Retired members and beneficiaries		60.040			72.052		
	d. Disabled retirees		69,049 4,684			73,853 4,939		
	e. Total		415,650			440,762		
			410,000			440,702		
	f. Other-than-plan retirees receiving benefit increases							
	from the Plan		705			765		
2.	Covered Payroll	\$	7,485,590,038		\$	8,032,457,947		
3.	Averages for active members							
	a. Average age		44.7			44.7		
	b. Average years of service		8.6			8.5		
	c. Average pay		34,372			37,853		
4.	Normal cost rate		13.02%			13.16%		
5.	Actuarial accrued liability							
	a. Retired members	_			_			
	and beneficiaries	\$	11,374,777,957		\$	12,831,725,476		
	<ul><li>b. Disabled members</li><li>c. Benefits for other-</li></ul>		348,086,799			374,502,413		
	than-plan retirees		11,867,731			11,200,495		
	d. Active members		12,577,854,555			13,389,737,875		
	e. Inactive members		918,524,304			1,029,957,682		
	f. Reserve for PBI COLAs		687,218,159			305,477,344		
	g. Total	\$	25,918,329,505	333.1%	\$	27,942,601,285	347.9%	
6.	Present actuarial assets	\$	23,642,904,763	322.3%	\$	23,836,519,123	296.8%	
7.	Unfunded actuarial accrued liability	\$	2,275,424,742	10.8%	\$	4,106,082,162	51.1%	

## Exhibit 5.2 - Summary of Cost Items

		Valuation as of June 30, 2004		Valuation as of June 30, 2005	
	- -	Cost Item	Cost as % of Pay	Cost Item	Cost as % of Pay
8.	Section 38-737 funding period	30 years		30 years	
9.	Section 38-737 contribution rate A. 401(a) Account				
	a. Employee	7.75%		8.70%	
	b. Employer	6.61%		7.62%	
	c. Total	14.36%		16.32%	
	B. 401(h) Account	14.0070		10.02 //	
	a. Employee	0.00%		0.00%	
	b. Employer	1.14%		1.08%	
	c. Total	1.14%		1.08%	
	C. Total of Combined Accounts				
	a. Employee	7.75%		8.70%	
	b. Employer	7.75%		8.70%	
	c. Total	15.50%		17.40%	
10.	Estimated yield on 401(a) actuarial assets	2.46%		3.20%	
11.	Relative size of unfunded actuarial accrued liability  a. As percentage of actuarial				
	assets	9.6%		17.2%	
	<ul><li>b. As percentage of covered payroll</li><li>c. As percentage of</li></ul>	30.4%		51.1%	
	total actuarial accrued liability	8.8%		14.7%	

**Exhibit 5.3 - History of Contribution Rates** 

	Calculated Rates		Actual Rates		Total Rate	
Fiscal Year Beginning July 1	Employee	Employer	Employee	Employer	Calculated	Actual
1980	7.00	6.28	7.00	7.00	13.28	14.00
1981	7.00	6.29	7.00	7.00	13.29	14.00
1982	7.00	5.79	7.00	7.00	12.79	14.00
1983	7.00	6.04	7.00	7.00	13.04	14.00
1984	6.27	6.27	6.27	6.27	12.54	12.54
1985	5.67	5.67	5.67	5.67	11.34	11.34
1986	5.53	5.53	5.53	5.53	11.06	11.06
1987	5.16	5.16	4.00	4.00	10.32	8.00
1988	5.09	5.09	5.09	5.09	10.18	10.18
1989	4.69	4.69	2.00	2.00	9.38	4.00
1990	3.82	3.82	3.82	3.82	7.64	7.64
1991	3.60	3.60	3.60	3.60	7.20	7.20
1992	3.59	3.59	3.59	3.59	7.18	7.18
1993	4.09	4.09	3.14	3.14	8.18	6.28
1994	3.75	3.75	3.75	3.75	7.50	7.50
1995	3.95	3.95	3.36	3.36	7.90	6.72
1996	3.20	3.20	3.20	3.20	6.40	6.40
1997	3.05	3.05	3.05	3.05	6.10	6.10
1998	2.85	2.85	2.85	2.85	5.70	5.70
1999	2.17	2.17	2.17	2.17	4.34	4.34
2000	2.73 <sup>1</sup>	2.73 <sup>1</sup>	2.17	2.17	5.46 <sup>1</sup>	4.34
2001	1.92	1.92	2.00	2.00	3.84	4.00
2002	3.86 <sup>1</sup>	3.86 <sup>1</sup>	2.00	2.00	7.72 <sup>1</sup>	4.00
2003	5.20	5.20	5.20	5.20	10.40	10.40
2004	6.96 <sup>1</sup>	6.96 <sup>1</sup>	5.20	5.20	13.92 <sup>1</sup>	10.40
2005	7.75	7.75	$6.90^{2}$	$6.90^{2}$	15.50	13.80 <sup>2</sup>
2006	8.70 <sup>1</sup>	8.70 <sup>1</sup>	8.60 <sup>2</sup>	8.60 <sup>2</sup>	17.40	17.20 <sup>2</sup>

#### **Actuarial Gains and Losses**

The purpose of this section is to determine the source of the actuarial gains and losses during the year that have caused the UAAL to increase.

The valuation of the Plan reflects a loss on the investment return on the actuarial value of assets of \$1,100 million. This loss is not due to the investment experience of fiscal 2005. Rather it is due to delayed recognition of losses that have occurred in earlier years. Investment losses are now recognized in actuarial assets over a ten-year period. The yield rate on actuarial assets for the 2004 fiscal year is 3.20% on the pension assets (401(a)) and 4.99% on the health supplement assets (401(h)), compared to last year's returns of 2.46% and 4.53%, respectively. The actuarially assumed rate of return is 8%. There was also a small loss of \$435 million on the liability experience, mostly due to the delay in implementing new contribution rates and to the increased value of contribution refunds for withdrawing members.

Exhibit 6.1 - Actuarial Gain or Loss for the Year

	ltem	Valuation as of June 30, 2004	Valuation as of June 30, 2005
A.	Calculation of Total Actuarial Gain or Loss  1. Unfunded actuarial accrued liability (UAAL),		
	previous year	\$ 786,740,936	\$ 2,275,424,742
	2. Normal cost for the year	\$ 950,776,657	\$ 1,010,224,924
	3. Contributions for the year	\$ (865,966,060)	\$ (946,697,219)
	<ul><li>4. Interest at 8%</li><li>a. On UAAL</li><li>b. On normal cost</li><li>c. On contributions</li><li>d. Total</li></ul>	62,939,275 76,062,133 (34,638,642) \$ 104,362,766	182,033,979 80,817,994 (37,867,889) \$ 224,984,084
	5. Expected UAAL (Sum of Items 1 - 4)	\$ 975,914,299	\$ 2,563,936,531
	6. Actual UAAL	\$ 2,275,424,742	\$ 4,106,082,162
	7. Gain/(loss) for the year (Item 5 - Item 6)	\$(1,299,510,443)	\$ (1,542,145,631)
В.	Source of Gains and Losses		
	<ol><li>Asset gain/(loss) for the year (Tables 5a and 5b, Item 10)</li></ol>	\$(1,264,979,199)	\$ (1,099,740,635)
	<ol><li>Asset gain/(loss) as a percentage of actuarial assets</li></ol>	(5.4%)	(4.6%)
	10. PBI Cola		
	a. Excess Earnings Reserve for Fiscal Year 2004	\$ 0	\$ 0
	<ul> <li>b. Excess Earnings Reserve for Fiscal Year 2005</li> </ul>	\$ 0	\$ 0
	<ol> <li>Total actuarial accrued liability gain/(loss) for the year (Item 7 - Item 8 - Item 10)</li> </ol>	\$ (34,531,244)	\$ (442,404,996)
	12. Analysis of actuarial accrued liability gain/(loss)		
	a. Legislative changes	\$ 97,212,411	\$ (7,628,000)
	<ul><li>b. Assumption changes</li><li>c. Experience liability gain/(loss)</li></ul>	\$ 0	\$ 0
	for the year	\$ (131,743,655)	\$ (434,776,996)
	<ul><li>d. Total actuarial accrued liability gain/(loss)</li></ul>	\$ (34,531,244)	\$ (442,404,996)
	<ol> <li>Experience liability gain/(loss) as percentage of total actuarial liability (Item 12c as % of Item 5h of Exhibit 5.2)</li> </ol>	(0.51%)	(1.56%)

**Exhibit 6.2 - Analysis of Change in Contribution Rate** 

Basis	Unfunded Actuarial Accrued Liability (\$ Millions)	Employer/Employee Contribution Rate	Change in Contribution Rate
1. Valuation as of June 30, 2004	2,275	7.76%	_
2. Delay in contribution rate change	2,564	7.83%	0.07%
3. 2004 / 2005 liability experience	2,999	8.12%	0.29%
4. 2004 / 2005 asset experience	4,099	8.68%	0.56%
<ol><li>2004 / 2005 legislative and administrative changes</li></ol>	4,106	8.68%	0.00%
6. Rounding to the nearest 0.05%	4,106	8.70%	0.02%

### **Permanent Benefit Increase**

Exhibit 7.1 shows the determination of the PBI for 2005. The statues used \$305.5 million in excess earnings to pay for the 2005 PBI. The per-year-of-service factor for the 2005 PBI is \$25.90. The determination of the "Excess Investment Earnings" held in reserve for future PBIs is shown in Items 11 thorough 13. As shown in Item 13c, no more assets are available for future PBIs after the granting of the PBI effective July 1, 2005. Since the actuarial investment return (on the actuarial value of assets) of 3.20% is below 8% for fiscal year 2005, there are no additional "Excess Investment Earnings" to be allocated for Permanent Benefit Increases (PBIs).

## Exhibit 7.1 - Determination of Permanent Benefit Increase (PBI) COLA

### Determination of July 1, 2005 PBI COLA:

	1.	Actuarial Present Value (APV) for all Retirees and Beneficiaries as of June 30, 2004	\$ 10,87	8,680,558
	2.	Rate of Return on Actuarial Value of Assets for Fiscal Year Ending June 30, 2004		2.46%
	3.	Excess Earnings Available for COLA		
		a. Carry-over From Prior Year	\$ 30	5,477,344
		b. Current Year (Item 1 x [Item 2 - 8%])		0
		c. Total Excess Earnings Available for COLA (Item 3.a + Item 3.b.)	\$ 30	5,477,344
	4.	One Percent of APV of all Retirees and Beneficiaries as of June 30, 2004	\$ 10	8,786,806
	5.	Preliminary COLA % (Item 3.c / Item 4 x 0.01)		2.8%
	6.	Actual COLA % (Item 5, but not greater than 4% and equal to 0% if less than 1%)		2.8%
	7.	Target Cost of 2005 COLA (Item 4 x Item 6)	\$ 30	5,477,344
	8.	APV of \$1 Per Year of Service for Eligible Group	\$ 1	1,795,500
	9.	Per Year of Service Factor for 2005 COLA	\$	25.90
	10.	Excess Investment Earnings to be Carried Forward to Next Year	\$	0
<u>Dete</u>	mina	ation of Reserves for Future PBI COLAs:		
	<ol> <li>Actuarial Present Value (APV) for all Retirees and Beneficiaries as of June 30, 2005</li> </ol>			6,501,912
	12.	Rate of Return on Actuarial Value of Assets for Fiscal Year Ending June 30, 2005		3.20%
	13.	Excess Earnings Reserves for Future COLAs		
		a. Carry Over From Prior Year (Item 10)	\$	0
		b. Current Year (Item 11 x [Item 12 - 8%, minimum 0])		0
		c. Total Excess Earnings Reserves for Future COLAs	\$	0

### **GASB Disclosure and CAFR Information**

This section focuses on the required GASB disclosures and the required CAFR information.

### **GASB 25 Schedule of Funding Progress**

The Governmental Accounting Standards Board (GASB) issued Statement No. 25 that establishes reporting and disclosures requirements for public sector defined benefit pension plans. The Schedule of Funding Progress shows a historical comparison of the 401(a) Plan's assets and liabilities, using the same actuarial method used for funding the 401(a) Plan.

### **GASB 25 Schedule of Employer Contributions**

The required Schedule of Employer Contributions compares the actual employer contributions to the "Annual Required Contributions" (ARC). The ARC is the employer contribution determined under GASB 25 standards (normal cost and amortization of unfunded actuarial accrued liabilities) using the actuarial funding method used for funding the 401(a) Plan.

Under GASB 25, only the 401(a) portion of the Plan is to be disclosed. Therefore, the values in the tables reflect only the pension portion of the Plan. They exclude the assets and actuarial accrued liabilities associated with the health supplement.

### **GASB 43 Schedule of Funding Progress**

The Governmental Accounting Standards Board (GASB) issued Statement No. 43 that establishes reporting and disclosures requirements for public sector postemployment benefit plans other than pension plans. The Schedule of Funding Progress shows a historical comparison of the 401(h) Plan's assets and liabilities, using the same actuarial method as the one used for funding the 401(h) Plan.

### **GASB 43 Schedule of Employer Contributions**

The required Schedule of Employer Contributions compares the actual employer contributions to the "Annual Required Contributions" (ARC). The ARC is the employer contribution determined under GASB 43 standards (normal cost and amortization of unfunded actuarial accrued liabilities) using the actuarial funding method of the 401(h) Plan.

#### **Retiree and Beneficiary Experience**

The annual CAFR requires the disclosure of historical summary data for retired members.

### **Solvency Test**

The annual CAFR requires the disclosure of a "Solvency Test." This test compares actuarial assets to actuarial accrued liabilities, applying assets to active member contributions first, then to inactive and retired members and then to the remaining active member liabilities.

### Actuarial Certification ARIZONA STATE RETIREMENT PLAN Actuarial Certification Statement

This is to certify that Buck Consultants has prepared an actuarial valuation of the Arizona State Retirement Plan as of June 30, 2005.

Actuarial calculations have been made with respect to a total of 440,762 members – 212,202 active employees, 149,768 inactive members, and 73,853 retired members and beneficiaries, and 4,939 members on long term disability. In addition, there are 765 System retirees receiving ad hoc benefits from Plan assets.

The actuarial calculations establish a total benefit cost of 17.40% of the annual compensation of employees. The total normal cost rate is 13.16% of compensation, and the required amortization payment determined in accordance with Section 38-737 is 4.20% of compensation.

The actuarial cost factors as of June 30, 2005 are as follows:

I.	Actuarial accrued liabilities  A. Liabilities due to member's benefits  1. Active members				
	a. Retirement benefits     b. Health insurance premium	\$11,605,799,504			
	supplement	904,119,388			
	<ul> <li>c. Disability deferred retirement benefits</li> </ul>	226,127,610			
	d. Pre-retirement death benefits     e. Withdrawal benefits	266,206,539 387,484,834			
	f. Total active members	001,101,001	\$13,389,737,875		
	Inactive members     Retired members and beneficiaries		1,029,957,682 12,831,725,476		
	4. Disabled members (deferred retirement)		374,502,413		
	<ol><li>Benefit increases for other-than-plan participants</li></ol>		11,200,495		
	Total present value of benefits	•	<u> </u>	\$27,637,123,941	
	B. Other miscellaneous liabilities and reserves     C. Reserve for future PBIs			0 305,477,344	
	D. Total actuarial accrued liability		- -		\$27,942,601,285
II.	Actuarial value of assets				23,836,519,123
III.	Unfunded actuarial accrued liability (Item I Item II)				4,106,082,162
IV.	Amortization of unfunded actuarial accrued liability (per Section 38-737)			337,717,046	
٧.	Normal cost for the year		<u>-</u>	1,056,741,114	
VI.	Total contribution for the year (Item IV + Item V)				1,394,458,160
VII.	Total covered payroll (projected to 2004 / 2005 plan year)				8,032,457,947
VIII.	Total contribution for fiscal years 2006 and 2007 as a percentage of covered payroll A. Employee Portion B. Employer Portion C. Total		401(a) Account 8.70% 7.62% 16.32%	401(h) Account 0.00% 1.08% 1.08%	Total 8.70% 8.70% 17.40%

The Board adopted a new asset valuation method on November 15, 2002, to be effective for valuations on and after June 30, 2002.

On November 21, 2003, the Board adopted assumptions to be effective for valuations on and after June 30, 2003. These assumptions are as follows:

1. Investment yield - 8% per annum.

### 2. Salary increases

Years of Service	Merit Component	Total Salary Increase
·		
1	5.00%	9.50%
2	4.00	8.50
3	2.50	7.00
4	1.80	6.30
5	1.40	5.90
6	1.25	5.75
7	1.00	5.50
8	0.80	5.30
9	0.75	5.25
10	0.50	5.00
11 to 19	0.25	4.75
20 or more	0.00	4.50

### 3. Rates of disability

Age	Males	Females
00	0.000/	0.070/
20	0.06%	0.07%
30	0.07%	0.10%
40	0.21%	0.21%
50	0.51%	0.49%
60	1.20%	1.09%

### 4. Rates of withdrawal - Sample ages and years of service

	Years of Service					
		Ma	ale Members			
Age	1	2	5	8	10+	
20	36.42%	28.95%	13.64%	7.11%	12.77%	
30	20.55	16.12	9.43	5.14	5.65	
40	16.98	10.11	6.65	4.00	2.27	
50	16.92	9.04	5.02	3.45	1.55	
60	18.24	9.63	3.71	2.61	1.08	

		Years of Service Female Members						
Age	1	2	5	8	10+			
20	30.53%	26.40%	20.77%	13.80%	21.48%			
30	19.37	16.52	10.89	8.11	8.21			
40	16.93	11.74	6.61	4.61	2.39			
50	14.57	9.27	5.22	2.87	1.67			
60	14.32	9.39	4.66	2.37	0.88			

5. Rates of retirement - Sample ages and years of service

		Years of Service					
Age	10-14	20-24	25	30	31+		
50	3.00%	4.00%	7.00%	17.50%	12.50%		
55	3.00	6.00	16.25	17.50	12.50		
60	7.00	23.75	26.75	35.00	30.00		
62	30.00	40.00	43.00	55.00	50.00		
65	30.00	30.00	33.00	35.00	30.00		
66 and above	30.00	30.00	33.00	35.00	30.00		

- 6. Mortality rates 1994 GAM Static, Projected to 2005 with Projection Scale AA, with no setback.
- 7. Mortality rates after disability Post disablement mortality rates are based on experience of other large public sector system and ASRS' own experience.
- 8. Valuation assets Market value less ten year phase-in of Excess (Shortfall) Investment income.
- 9. Funding method Projected unit-credit.

The actuarial calculations have been performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the Plan and on the actuarial assumptions adopted by the Board.

ASRS prepared all trend data schedules in the financial section and the supporting schedules in the actuarial section of its Comprehensive Annual Financial Report.

Charles E. Chittenden, FSA, EA, MAAA

Principal and Consulting Actuary

Charles & Chittender

Exhibit 8.1a - Schedule of Funding Progress (401(a) Plan , as required by GASB #25)

Actuarial Value of Assets (AVA)	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL) (3) - (2) (4)	Funded Ratio (2) / (3) (5)	Annual Covered Payroll (6)	UAAL as % of Payroll (4) / (6) (7)
\$ 9,770	\$ 8,921	\$ (849)	109.5%	\$ 3,748	(22.7%)
10,549	9,668	(872)	109.0%	4,126	(21.1%)
11,521	10,304	(1,217)	111.8%	4,432	(27.5%)
12,579	11,111	(1,468)	113.2%	4,632	(31.7%)
13,692	11,694	(1,998)	117.1%	4,836	(41.3%)
15,577	12,910	(2,667)	120.7%	5,164	(51.7%)
18,043	15,476	(2,567)	116.6%	5,488	(46.8%)
20,292	16,854	(3,438)	120.4%	5,894	(58.3%)
21,888	19,012	(2,876)	115.1%	6,357	(45.2%)
22,642	21,285	(1,357)	106.4%	6,989	(19.4%)
22,572	22,935	363	98.4%	7,297	5.0%
22,659	24,506	1,847	92.5%	7,486	24.7%
22,808	26,486	3,678	86.1%	8,032	45.8%
	Value of Assets (AVA) (2) \$ 9,770 10,549 11,521 12,579 13,692 15,577 18,043 20,292 21,888 22,642 22,572 22,659	Value of Assets (AVA)         Accrued Liability (AAL)           (2)         (3)           \$ 9,770         \$ 8,921           10,549         9,668           11,521         10,304           12,579         11,111           13,692         11,694           15,577         12,910           18,043         15,476           20,292         16,854           21,888         19,012           22,642         21,285           22,572         22,935           22,659         24,506	Value of Assets (AVA)         Accrued Liability (AAL)         Actuarial Accrued Liability (UAAL) (3) - (2)           (2)         (3)         (4)           \$ 9,770         \$ 8,921         \$ (849)           10,549         9,668         (872)           11,521         10,304         (1,217)           12,579         11,111         (1,468)           13,692         11,694         (1,998)           15,577         12,910         (2,667)           18,043         15,476         (2,567)           20,292         16,854         (3,438)           21,888         19,012         (2,876)           22,642         21,285         (1,357)           22,572         22,935         363           22,659         24,506         1,847	Value of Assets (AVA)         Accrued Liability (AAL)         Actuarial Accrued Liability (UAAL) (3) - (2)         Funded Ratio (2) / (3)           (2)         (3)         (4)         (5)           \$ 9,770         \$ 8,921         \$ (849)         109.5%           10,549         9,668         (872)         109.0%           11,521         10,304         (1,217)         111.8%           12,579         11,111         (1,468)         113.2%           13,692         11,694         (1,998)         117.1%           15,577         12,910         (2,667)         120.7%           18,043         15,476         (2,567)         116.6%           20,292         16,854         (3,438)         120.4%           21,888         19,012         (2,876)         115.1%           22,642         21,285         (1,357)         106.4%           22,572         22,935         363         98.4%           22,659         24,506         1,847         92.5%	Value of Assets (AVA)         Accrued Liability (AAL)         Actuarial Accrued Liability (UAAL) (3) - (2)         Funded Ratio (2) / (3)         Annual Covered Payroll           (2)         (3)         (4)         (5)         (6)           \$ 9,770         \$ 8,921         \$ (849)         109.5%         \$ 3,748           10,549         9,668         (872)         109.0%         4,126           11,521         10,304         (1,217)         111.8%         4,432           12,579         11,111         (1,468)         113.2%         4,632           13,692         11,694         (1,998)         117.1%         4,836           15,577         12,910         (2,667)         120.7%         5,164           18,043         15,476         (2,567)         116.6%         5,488           20,292         16,854         (3,438)         120.4%         5,894           21,888         19,012         (2,876)         115.1%         6,357           22,642         21,285         (1,357)         106.4%         6,989           22,572         22,935         363         98.4%         7,297           22,659         24,506         1,847         92.5%         7,486

Note: Dollar amounts in millions. Values shown for valuation dates on or after June 30, 1996 are for the 401(a) plans only.

Exhibit 8.1b - Schedule of Employer Contributions (401(a) Plan, as required by GASB #25)

Fiscal Year	Annual Required Contribution	Percentage Contributed
1993	\$ 135,644,868	100.0%
1994	162,452,872	76.8%
1995	158,559,931	100.0%
1996	78,608,439	100.0%
1997	89,756,995	100.0%
1998	78,004,461	100.0%
1999	85,964,481	100.0%
2000	195,810,628	100.0%
2001	209,320,281	100.0%
2002	130,647,669	100.0%
2003	137,622,205	100.0%
2004	297,268,473	100.0%
2005	317,919,116	100.0%

Note: Contribution amounts shown for fiscal year 1996 and after are the contribution amounts for the 401(a) pension plan only.

### Exhibit 8.2a - Schedule of Funding Progress (401(h) Plan, as required by GASB #43)

Valuation Date	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL) (3) - (2)	Funded Ratio (2) / (3)	Annual Covered Payroll	UAAL as % of Payroll (4) / (6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
06/30/200 5	\$ 1,028	\$ 1,456	\$ 428	70.6%	\$ 8,032	5.3%

Note: Dollar amounts in millions.

### Exhibit 8.2b - Schedule of Employer Contributions (401(h) Plan, as required by GASB #43)

Fiscal	Annual Required	Percentage	
Year 2005	Contribution \$ 85,350,074	Contributed 100.0%	

### **Exhibit 8.3 - Notes to Required Supplementary Information**

The information presented in the required supplementary schedules was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation follows:

Valuation Date June 30, 2005

Actuarial cost method Projected Unit Credit

Amortization method Level dollar, 30 years

Payroll growth rate for amortization N/A

Asset valuation method 10-year smoothed market

Actuarial assumptions:

Investment rate of return\* 8.00%

Projected salary increases 4.50% to 9.50%

\*Includes inflation at 4.25%

Cost-of-living adjustments Permanent Benefit Increase COLA reserve

of \$ 305 million as of June 30, 2005, before the 2005 PBI increase.

### **Exhibit 8.4 - Components of Normal Cost**

	2004
Components of the normal cost are as follows:	
Retirement benefits	10.27%
Health insurance premium supplement	0.67%
Survivor benefits	0.31%
Withdrawals	1.38%
Long-term disability benefit	0.39%
Total, normal cost	13.02%
Amortization of the UAAL	2.50%
Required contribution rate for FY 2006/2007 Shared by employee and employer	15.52%
Required matching contribution rate	<u>7.76%</u>
Rounded contribution rate shared by employee and employer to the nearest 0.05%	<u>7.75%</u>
Legislative required contribution rate shared by employee and employer for FY 2006 Legislative required contribution rate shared by	6.90%
employee and employer for FY 2007	8.60%

Exhibit 8.5 - Schedule of Plan Active Member Valuation Data

### **Contributing Active Members**

				Increase
Valuation		Annual	Annual	in Average
As of June 30	<u>Number</u>	<u>Payroll</u>	Average Pay	<u>Pay</u>
2004	205,482	7,485,590,038	36,429	1.0%
2005	212,202	8,032,457,947	37,853	3.9%

Exhibit 8.6 - Schedule of Plan Retirees Added to and Removed from Rolls

Year Ended	Retirants and Beneficiaries <u>Added to Rolls</u>	Retirants and Beneficiaries Removed from <u>Rolls</u>	Retirants and Beneficiaries at End of <u>Year</u>	Percentage Increase in Average <u>Allowances</u>	Average Annual <u>Allowances</u>
2004	6,430	2,196	68,931	6.1%	17,844
2005	7,005	2,083	73,853	1.4%	18,097

[Presentation showed \$18,097 for average annual allowance.]

Exhibit 8.7 - Schedule of Unfunded (Over) Accrued Liabilities - Plans (401 (a) and 401 (h))

				Unfunded		
	Aggregate		Assets as a %	(over)		UAL as a %
Year	Accrued	Actuarial	of Accrued	Accrued	Active	of Active
Ended	Liabilities	Value of Net	Liabilities	Liabilities –	Member	Member
<u>June 30</u>	<u>Plan</u>	Plan Assets	<u>Plan</u>	Plan (UAL)	<u>Payroll</u>	<u>Payroll</u>
2004	25,918,329,505	23,642,904,763	91%	2,275,424,742	7,485,590,038	30.4%
2005	27,942,601,285	23,836,519,123	85%	4,106,082,162	8,032,457,947	51.1%

Exhibit 8.8 - Solvency Test

### Aggregate Accrued Liabilities for

	(1)	(2)	(3) Active Members			n of Acc	
Year Ended			(Employer Financed	Net Assets Available for	by N	Net Asse	
June 30	Contributions	and <u>Beneficiaries</u>	Portion)	Benefits	<u>(1)</u>	( <u>2)</u>	<u>(3)</u>
2004	3,407,611,954	12,421,950,646	10,088,766,905	23,642,904,763	100	100	77.4
2005	3,717,945,957	13,522,905,728	10,701,749,600	23,836,519,123	100	100	61.6

### Exhibit 8.9 - Schedule of Recommended Versus Actual Plan Contributions

Active Year Ended Member <u>June 30</u> <u>Payroll</u>		Employee Contributions	Employer Retirement Contribution <u>Rate – Actual</u>	Actuary Recommended <u>Contribution</u>
2004	7,486,000,000	377,436,100	5.20%	5.20%
2005	8,032,000,000	403,269,191	5.20%	5.20%

### Exhibit 8.10 – Analysis of Financial Experience for the Plan

### (millions)

Year Ended June 30	Unfunded Actuarial Liability (UAAL), Prior Year	Normal Cost for the <u>Year</u>	Contributions for the Year	Interest at 8% on UAAL	On Normal <u>cost</u>	On Contri- butions	<u>Total</u>	Expected <u>UAAL</u>	Actual <u>UAAL</u>	Gain (Loss) for the <u>Year</u>
2004	786.74	950.78	(865.97)	62.94	76.06	(34.64)	104.36	975.91	2,275.42	(1,299.51)
2005	2.275.42	1.010.22	(946.70)	182.03	80.82	(37.87)	224.98	2,563.94	4,106.08	(1,542.15)

### **Summary of Actuarial Method and Assumptions**

### Summary of Actuarial Methods and Assumptions (Adopted by Board Action on November 21, 2003) (Effective as of June 30, 2004)

### A. Actuarial Assumptions

1. Investment Yield Rate

8% per annum, compounded annually.

- 2. Mortality
  - a. Pre-retirement

1994 GAM – Static, Projected to 2005 with Projection Scale AA, with no setback. Rates at representative ages are shown below.

Rates of	Mortality	(Active)
----------	-----------	----------

Age	Male Participants	Female Participants
20	0.000411	0.000238
25	0.000592	0.000249
30	0.000758	0.000314
35	0.000805	0.000423
40	0.000981	0.000600
45	0.001366	0.000815
50	0.002112	0.001183
55	0.003583	0.002100
60	0.006679	0.004201
65	0.012447	0.008173
70	0.020095	0.012993

b. Post-retirement

Non-Disabled rates are based on the 1994 GAM – Static, Projected to 2005 with Projection Scale AA with no setback. Disabled rates are based on the experience of other large public sector retirement systems and ASRS' own experience. Rates at representative ages are shown below.

0.012993

Rates of Mortality						
Non-Disabled Disabled		Non-Disabled	Disabled			
Male Partic	cipants	Female Par	ticipants			
0.000411	0.034940	0.000238	0.026939			
0.000592	0.038887	0.000249	0.027444			
0.000758	0.051102	0.000314	0.038302			
0.000805	0.063544	0.000423	0.053927			
0.000981	0.058807	0.000600	0.056984			
0.001366	0.040921	0.000815	0.037586			
0.002112	0.034742	0.001183	0.025696			
0.003583	0.031356	0.002100	0.022836			
0.006679	0.031109	0.004201	0.018029			
0.012447	0.030861	0.008173	0.013934			
	Male Partic 0.000411 0.000592 0.000758 0.000805 0.000981 0.001366 0.002112 0.003583 0.006679	Non-Disabled         Disabled           Male Participants         0.000411         0.034940           0.000592         0.038887           0.000758         0.051102           0.000805         0.063544           0.000981         0.058807           0.001366         0.040921           0.002112         0.034742           0.003583         0.031356           0.006679         0.031109	Non-Disabled         Disabled         Non-Disabled           Male Participants         Female Participants           0.000411         0.034940         0.000238           0.000592         0.038887         0.000249           0.000758         0.051102         0.000314           0.000805         0.063544         0.000423           0.000981         0.058807         0.000600           0.001366         0.040921         0.000815           0.002112         0.034742         0.001183           0.003583         0.031356         0.002100           0.006679         0.031109         0.004201			

0.033730

### 3. Disability Rates

70

0.020095

### Sample rates are shown below.

0.012993

	Rates of Decrement due to Disability					
Age	Male Participants	Female Participants				
20	.000575	.000734				
25	.000638	.000804				
30	.000730	.001014				
35	.001096	.001563				
40	.002111	.002111				
45	.003358	.003171				
50	.005128	.004865				
55	.007715	.007022				
60	.011992	.010913				

### 4. Withdrawal Rates

(for causes other than death, disability, or retirement)

Select and ultimate withdrawal rates are used. Rates at representative ages are shown below.

Rates of Decrement due to Withdrawal

	Years of Service										
Age	0	1	2	3	4	5	6	7	8	9	10+
					Mal	e Employ	ees				
20	.3731	.3642	.2895	.2545	.1508	.1364	.091	.084	.071	.076	.1277
30	.2267	.2055	.1612	.1547	.0917	.0943	.071	.068	.051	.051	.0565
40	.1931	.1698	.1011	.1015	.0601	.0665	.055	.054	.040	.038	.0227
50	.1892	.1692	.0904	.0820	.0458	.0502	.046	.035	.034	.031	.0155
60	.2219	.1824	.0963	.0848	.0445	.0371	.033	.033	.026	.024	.0108
70	.2604	.2282	.1320	.1229	.0616	.0549	.036	.031	.022	.020	.0180
					Fem	ale Emplo	yees				
20	.3116	.3053	.2640	.2596	.2101	.2077	.1680	.1405	.1380	.1285	.2148
30	.2015	.1937	.1652	.1456	.1094	.1089	.0930	.0813	.0811	.0760	.0821
40	.1720	.1693	.1174	.0930	.0666	.0661	.0563	.0482	.0461	.0417	.0239
50	.1698	.1457	.0927	.0722	.0528	.0522	.0426	.0335	.0287	.0227	.0167
60	.1805	.1432	.0939	.0731	.0508	.0466	.0357	.0275	.0237	.0190	.0088
70	.1916	.1666	.1199	.0955	.0622	.0508	.0363	.0293	.0311	.0358	.0144

### 5. Salary Scales

A select and ultimate salary scale made up of a merit component and general salary increase component as follows:

Years of Service	Merit Component	Total Salary Increase*		
(1)	(2)	(3)		
1	5.00%	9.50%		
2	4.00%	8.50%		
3	2.50%	7.00%		
4	1.80%	6.30%		
5	1.40%	5.90%		
6	1.25%	5.75%		
7	1.00%	5.50%		
8	0.80%	5.30%		
9	0.75%	5.25%		
10	0.50%	5.00%		
11 to 19	0.25%	4.75%		
20 or more	0.00%	4.50%		

<sup>\*</sup> Total salary increase rate = inflation (or growth) rate (4.25%)

<sup>+</sup> productivity increase rate (0.25%)

<sup>+</sup> merit component

### 6. Retirement Age:

Select and ultimate retirement rates are used. Rates at representative ages and years of service are shown below:

	Rates of Decrement Due to Retirement									
	Years of Service									
Age	0-4	5-9	10-14	15-19	20-24	25	26-29	30	31+	
50	0.000	0.020	0.030	0.035	0.0400	0.0700	0.0625	0.175	0.125	
55	0.000	0.020	0.030	0.035	0.0600	0.1625	0.1300	0.175	0.125	
60	0.000	0.040	0.070	0.090	0.2375	0.2675	0.2000	0.350	0.300	
62	0.000	0.050	0.300	0.340	0.4000	0.4300	0.4000	0.550	0.500	
65	0.030	0.100	0.300	0.300	0.3000	0.3300	0.3000	0.350	0.300	
66+	0.030	0.100	0.300	0.300	0.3000	0.3300	0.3000	0.350	0.300	

### 7. Future Retirees Eligible for the Health Insurance Premium Supplement

It is assumed that 75% of future retirees will be eligible to receive the post-retirement health insurance premium supplement and that 60% of those retirees will be eligible for the dependent premium supplement.

### 8. <u>Proportion of Vested Termination Members Who Will Not Withdraw Their Contributions</u>

It is assumed that members who terminate with 5 or more years of service (but prior to eligibility for retirement) will choose to receive the enhanced refund option if the value of the enhanced refund option is greater than the present value of the deferred benefit, otherwise the employees are assumed to elect to receive the deferred benefit. If the employee is assumed to elect the enhanced refund option, then it is also assumed that the employee forfeits the supplement.

Employees who terminate with less than five years of service are assumed to withdraw their employee contributions with interest.

Employees who terminate eligible for early retirement are assumed to commence payments.

### B. Actuarial Value of Assets

The actuarial value of assets is equal to the market value of assets less a ten-year phase-in (five-year phase-in prior to June 30, 2002) of the Excess (Shortfall) between expected investment return and actual income.

### C. Actuarial Funding Method

Costs are determined under the projected unit-credit method. The unfunded actuarial accrued liability is funded on a level dollar basis over the period of time described in Section 38-737. For the June 30, 2005 actuarial valuation, the period is 30 years.

### D. Data for Valuation

In preparing the June 30, 2005 actuarial valuation, the actuary has relied on data and assets provided by the staff of the Arizona State Retirement System. While not verifying the data at their source, the actuary has performed tests for consistency and reasonableness.

### **Member Data**

The June 30, 2005 actuarial valuation of the Plan was based on the following data. For comparison, we also show a summary of the June 30, 2004 statistical information.

Exhibit 10.1 - Distribution of Active Employees by Employee Group and By Average Age, Average Years of Service, and Average Annual Salary

### **ACTIVE PLAN MEMBERS**

		of Active lembers	Average Age			e Years ervice	Average Annual Salary		
Employee Group	As of June 30, 2004	As of June 30, 2005	As of June 30, 2004	As of June 30, 2005	As of June 30, 2004	As of June 30, 2005	As of June 30, 2004	As of June 30, 2005	
State Employees:									
Male	16,708	16,983	46.5	46.7	9.7	9.6	\$ 40,268	\$ 45,738	
Female	27,881	28,908	44.8	44.8	8.8	8.7	32,582	37,057	
Total	44,589	45,891	45.4	45.5	9.1	9.0	\$ 35,461	\$ 40,270	
Teachers:									
Male	16,329	16,894	44.7	44.5	10.5	10.2	\$ 43,579	\$ 46,767	
Female	49,638	51,543	43.8	43.7	10.2	10.0	39,158	42,227	
Total	65,967	68,437	44.0	43.9	10.2	10.1	\$ 40,253	\$ 43,348	
Political Subdivision Employees:									
Male	35,538	36,626	45.6	45.7	7.8	7.8	\$ 36,198	\$ 39,864	
Female	59,388	61,248	44.3	44.5	6.8	6.9	25,931	28,699	
Total	94,926	97,874	44.8	45.0	7.2	7.2	\$ 29,775	\$ 32,877	
All Active Plan Members:									
Male	68,575	70,503	45.6	45.7	8.9	8.8	\$ 38,947	\$ 42,933	
Female	136,907	141,699	44.2	44.3	8.4	8.4	32,081	35,325	
Total	205,482	212,202	44.7	44.7	8.6	8.5	\$ 34,372	\$ 37,853	

Exhibit 10.2 – Summary of Retired Membership											
		June 30, 2004		June 30, 2005	Percentage Change During the Period						
STATE EMPLOYEES											
Number		17,591		18,683	6.2%						
Total Monthly Allowance	\$	22,991,837	\$	24,701,837	7.4%						
Average Monthly Allowance	\$	1,307	\$	1,322	1.1%						
Average Age		70.3		70.4	0.1%						
Average Years of Service		17.6		17.8	1.1%						
TEACHERS											
Number		21,276		22,970	8.0%						
Total Monthly Allowance	\$	45,197,534	\$	49,436,236	9.4%						
Average Monthly Allowance	\$	2,124	\$	2,152	1.3%						
Average Age		67.8		68.0	0.3%						
Average Years of Service		23.5		23.6	0.4%						
POLITICAL SUBDIVISION											
Number		30,064		32,200	7.1%						
Total Monthly Allowance	\$	34,312,783	\$	37,242,206	8.5%						
Average Monthly Allowance	\$	1,141	\$	1,157	1.4%						
Average Age		69.8		70.2	0.6%						
Average Years of Service		16.9		17.0	0.6%						
TOTAL											
Number <sup>1</sup>		68,931		73,853	7.1%						
Total Monthly Allowance 2,3	\$	102,502,155	\$	111,380,280	8.7%						
Average Monthly Allowance	\$	1,487	\$	1,508	1.4%						
Average Age		69.3		69.6	0.4%						
Average Years of Service		19.1		19.3	1.0%						
<sup>1</sup> Excludes Other-than-plan retiree:	s receivir	ng henefit increases	from th	e Plan							
<sup>2</sup> Allowance includes estimated PE		-									
Allowance includes only estimate			ouly 1	, 2007							

Exhibit	Exhibit 10.3 – Summary of Inactive Membership											
	June 30, 2004	June 30, 2005	Percentage Change During the Period									
STATE EMPLOYEES Number	31,980	34,454	7.7%									
TEACHERS Number	23,153	26,121	12.8%									
POLITICAL SUBDIVISION Number	81,302	89,193	9.7%									
TOTAL Number	136,435	149,768	9.8%									

## Exhibit 10.4a Distribution of Active Employees by Average Age, Average Years of Service and Average Salary State Employees as of June 30, 2005

			1 -	ANS OF S	DERVICE				
CURRENT AGE									
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	TOTAL
Below 19	164	0	0	0	0	0	0	0	164
	17,349	0	0	0	0	0	0	0	17,349
20-24	1,452	91	0	0	0	0	0	0	1,543
	25,134	31,948	0	0	0	0	0	0	25,536
25-29	2,796	823	29	0	0	0	0	0	3,648
	30,606	34,575	34,759	0	0	0	0	0	31,534
30-34	2,420	1,602	359	20	0	0	0	0	4,401
	33,311	38,706	39,642	41,044	0	0	0	0	35,826
35-39	2,038	1,576	891	343	19	0	0	0	4,867
	34,733	39,196	42,990	44,623	40,506	0	0	0	38,409
40-44	2,061	1,608	1,072	920	322	35	0	0	6,018
	35,277	39,238	43,559	48,196	46,821	44,837	0	0	40,459
45-49	2,065	1,695	1,256	1,185	693	337	17	0	7,248
	35,237	39,482	43,703	47,333	50,307	50,200	52,139	0	41,851
50-54	1,829	1,510	1,235	1,243	808	609	172	4	7,410
	36,423	39,461	43,089	48,077	51,804	56,925	56,357	57,612	43,944
55-59	1,486	1,245	1,056	1,111	724	430	272	52	6,376
	36,756	41,273	43,292	45,535	49,296	59,518	64,985	62,119	44,620
60-64	620	686	571	602	322	196	123	56	3,176
	38,177	40,795	42,769	45,044	49,760	60,185	66,692	74,044	45,139
65-69	158	176	159	148	70	30	25	24	790
	38,525	41,597	40,599	42,874	45,206	53,990	66,126	87,006	43,967
70 & Over	38	58	48	44	17	10	16	19	250
	42,483	37,031	35,713	43,695	40,618	47,031	59,656	82,587	44,334
TOTAL	17,127	11,070	6,676	5,616	2,975	1,647	625	155	45,891
	33,537	39,168	42,938	46,704	49,793	56,243	62,506	72,674	40,270

## Exhibit 10.4b Distribution of Active Employees by Average Age, Average Years of Service and Average Salary Teachers as of June 30, 2005

				71110 01 0	DEITTIOE				
CURRENT AGE									
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	TOTAL
Below 19	33	0	0	0	0	0	0	0	33
	12,069	0	0	0	0	0	0	0	12,069
20-24	2,102	53	0	0	0	0	0	0	2,155
	32,014	28,117	0	0	0	0	0	0	31,918
25-29	5,677	1,799	20	0	0	0	0	0	7,496
	36,064	39,749	38,669	0	0	0	0	0	36,955
30-34	3,322	4,033	870	9	0	0	0	0	8,234
	35,939	42,222	46,395	46,052	0	0	0	0	40,132
35-39	2,395	2,663	2,231	491	9	0	0	0	7,789
	34,214	41,653	48,417	50,941	33,606	0	0	0	41,879
40-44	2,205	2,353	1,804	1,726	544	17	0	0	8,649
	33,030	39,360	46,215	53,013	55,092	52,099	0	0	42,915
45-49	2,087	2,155	1,922	1,715	1,662	775	11	0	10,327
	32,913	38,356	44,649	51,140	57,397	59,221	53,828	0	45,197
50-54	1,818	1,997	2,005	2,019	1,569	1,683	487	11	11,589
	33,898	40,344	44,707	50,073	55,275	62,701	67,250	59,255	48,199
55-59	1,379	1,300	1,373	1,636	1,282	832	465	98	8,365
	34,382	41,216	45,773	50,047	54,745	59,316	68,015	71,125	48,278
60-64	601	576	476	534	395	248	95	72	2,997
	32,543	40,161	43,370	49,079	51,339	55,178	60,895	64,594	44,692
65-69	176	152	79	98	46	33	17	13	614
	27,569	36,971	42,866	46,954	48,875	49,664	53,915	55,451	39,062
70 & Over	68	47	20	17	14	11	2	10	189
	22,873	24,895	32,944	28,742	33,643	34,250	53,347	65,460	29,005
TOTAL	21,863	17,128	10,800	8,245	5,521	3,599	1,077	204	68,437
	34,318	40,492	45,881	50,807	55,348	60,394	66,646	66,903	43,348

## Exhibit 10.4c Distribution of Active Employees by Average Age, Average Years of Service and Average Salary Political Subdivision Employees as of June 30, 2005

				,	PLITTIOL				
CURRENT AGE									
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	TOTAL
Below 19	714	0	0	0	0	0	0	0	714
	12,075	0	0	0	0	0	0	0	12,075
20-24	4,242	327	0	0	0	0	0	0	4,569
	18,756	24,723	0	0	0	0	0	0	19,183
25-29	5,437	1,700	63	0	0	0	0	0	7,200
	26,438	31,433	34,163	0	0	0	0	0	27,685
30-34	5,350	2,964	605	48	0	0	0	0	8,967
	27,313	36,082	37,700	43,026	0	0	0	0	30,996
35-39	5,583	3,269	1,401	566	55	0	0	0	10,874
	25,897	35,826	43,180	44,450	50,636	0	0	0	32,199
40-44	6,192	3,909	1,905	1,284	537	64	0	0	13,891
	24,814	33,134	42,608	50,229	50,308	48,961	0	0	33,042
45-49	5,913	4,203	2,433	1,752	974	487	49	0	15,811
	25,781	32,853	39,221	48,693	54,136	52,785	55,136	0	34,937
50-54	4,987	3,662	2,331	1,900	1,172	731	265	8	15,056
	26,323	34,260	39,537	46,666	52,901	58,629	62,565	72,471	37,166
55-59	4,028	2,705	1,862	1,637	1,064	529	235	53	12,113
	26,422	34,078	39,353	46,365	51,344	56,532	71,891	71,928	37,400
60-64	1,946	1,448	901	753	422	269	122	53	5,914
	22,908	31,369	37,432	42,815	48,091	53,180	62,491	83,691	34,262
65-69	852	486	270	135	76	38	28	14	1,899
	17,812	25,905	32,295	41,327	46,563	47,152	48,930	75,924	26,239
70 & Over	380	266	113	58	28	14	1	6	866
	14,910	19,776	24,063	32,161	37,194	37,642	118,214	85,880	20,453
									_
TOTAL	45,624	24,939	11,884	8,133	4,328	2,132	700	134	97,874
	24,808	33,446	39,772	46,880	51,764	55,454	64,697	77,655	32,877

## Exhibit 10.4d Distribution of Active Employees by Average Age, Average Years of Service and Average Salary Total Active Employees as of June 30, 2005

				,	PLITTIOL				
CURRENT AGE									
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	TOTAL
Below 19	911	0	0	0	0	0	0	0	911
	13,024	0	0	0	0	0	0	0	13,024
20-24	7,796	471	0	0	0	0	0	0	8,267
	23,519	26,501	0	0	0	0	0	0	23,689
25-29	13,910	4,322	112	0	0	0	0	0	18,344
	31,204	35,493	35,122	0	0	0	0	0	32,238
30-34	11,092	8,599	1,834	77	0	0	0	0	21,602
	31,205	39,451	42,205	42,865	0	0	0	0	35,463
35-39	10,016	7,508	4,523	1,400	83	0	0	0	23,530
	29,684	38,600	45,726	46,769	46,471	0	0	0	36,688
40-44	10,458	7,870	4,781	3,930	1,403	116	0	0	28,558
	28,608	36,242	44,182	50,976	51,363	48,177	0	0	37,595
45-49	10,065	8,053	5,611	4,652	3,329	1,599	77	0	33,386
	29,200	35,721	42,083	49,249	54,967	55,360	54,287	0	39,612
50-54	8,634	7,169	5,571	5,162	3,549	3,023	924	23	34,055
	30,057	37,050	42,185	48,338	53,701	60,553	63,878	63,566	42,396
55-59	6,893	5,250	4,291	4,384	3,070	1,791	972	203	26,854
	30,243	37,552	42,376	47,529	52,281	58,542	68,105	69,028	42,503
60-64	3,167	2,710	1,948	1,889	1,139	713	340	181	12,087
	27,726	35,624	40,447	45,296	49,689	55,801	63,565	73,110	39,706
65-69	1,186	814	508	381	192	101	70	51	3,303
	22,019	31,364	36,538	43,375	46,622	50,004	56,282	75,920	32,863
70 & Over	486	371	181	119	59	35	19	35	1,305
	18,180	23,122	28,134	35,937	37,338	39,259	62,074	78,258	26,267
TOTAL	84,614	53,137	29,360	21,994	12,824	7,378	2,402	493	212,202
	29,032	36,909	42,739	48,307	52,850	58,040	65,001	71,640	37,853

# Exhibit 10.5a Distribution of Retired Employees by Average Age, Average Years of Service and Average Monthly Annuity State Employees as of June 30, 2005

CURRENT AGE											
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45+	TOTAL
Under 55	3	89	152	547	0	0	0	0	0	0	791
	68	322	380	2,156	0	0	0	0	0	0	1,600
55-59	6	221	295	1,114	264	0	0	0	0	0	1,900
	362	268	531	2,173	2,344	0	0	0	0	0	1,715
60-64	14	437	646	516	1,370	188	0	0	0	0	3,171
	120	326	627	940	2,129	2,616	0	0	0	0	1,401
65-69	114	611	898	713	604	808	70	0	0	0	3,818
	140	348	688	1,057	1,545	2,639	3,234	0	0	0	1,281
70-74	149	683	774	568	464	341	286	14	0	0	3,279
	136	363	741	1,105	1,661	2,372	3,153	3,518	0	0	1,220
75-79	94	515	603	474	338	260	159	74	2	0	2,519
	156	386	769	1,182	1,709	2,347	2,824	3,722	3,320	0	1,253
80-84	51	366	483	443	311	163	102	47	8	0	1,974
	150	396	807	1,203	1,546	2,175	2,747	2,751	4,435	0	1,193
85-89	22	185	213	193	114	92	60	18	10	1	908
	166	409	846	1,108	1,519	2,009	2,171	2,388	3,154	3,731	1,145
90-94	14	73	78	54	32	22	11	3	1	0	288
	195	393	816	1,124	1,371	1,529	1,734	2,185	1,797	0	905
95 & Over	0	10	8	8	2	3	3	0	1	0	35
_	0	397	811	1,072	1,334	1,391	1,280	0	1,858	0	902
TOTAL	467	3,190	4,150	4,630	3,499	1,877	691	156	22	1	18,683
	148	358	702	1,478	1,863	2,462	2,910	3,228	3,514	3,731	1,322

# Exhibit 10.5b Distribution of Retired Employees by Average Age, Average Years of Service and Average Monthly Annuity Teachers as of June 30, 2005

OUDDENIT					YEARS	OF SER	VICE				
CURRENT AGE											
AGL	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45+	TOTAL
Under 55	1	47	82	1,364	0	0	0	0	0	0	1,494
	69	180	415	2,817	0	0	0	0	0	0	2,600
55-59	0	163	242	3,166	692	0	0	0	0	0	4,263
	0	290	591	2,843	2,840	0	0	0	0	0	2,617
60-64	8	245	407	436	3,136	437	0	0	0	0	4,669
	155	328	755	1,155	2,711	2,964	0	0	0	0	2,289
65-69	93	277	457	505	879	1,638	167	0	0	0	4,016
	127	397	816	1,294	1,939	2,913	3,352	0	0	0	2,038
70-74	77	218	372	452	656	737	745	29	0	0	3,286
	132	411	882	1,384	1,941	2,538	3,203	3,731	0	0	2,036
75-79	43	156	275	360	553	622	341	124	3	0	2,477
	132	405	889	1,332	1,820	2,330	2,784	3,477	3,896	0	1,874
80-84	19	100	185	323	392	347	171	61	15	0	1,613
	173	409	847	1,293	1,631	2,044	2,544	2,836	3,274	0	1,627
85-89	6	44	86	165	209	136	74	39	9	0	768
	204	429	856	1,172	1,464	1,767	2,042	2,229	2,666	0	1,426
90-94	3	21	50	61	63	32	27	16	12	1	286
	228	425	847	1,071	1,341	1,578	1,796	2,006	2,112	2,579	1,261
95 & Over	1	11	19	29	13	13	4	4	4	0	98
_	240	346	819	1,080	1,307	1,448	1,561	1,863	2,026	0	1,108
_											
TOTAL	251	1,282	2,175	6,861	6,593	3,962	1,529	273	43	1	22,970
	137	368	790	2,305	2,351	2,626	2,967	3,073	2,750	2,579	2,152

# Exhibit 10.5c Distribution of Retired Employees by Average Age, Average Years of Service and Average Monthly Annuity Political Subdivision Employees as of June 30, 2005

OUDDENIT				ΥI	EARS OF	SERVIC	E				
CURRENT AGE											
AGE _	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45+	TOTAL
Under 55	3	143	201	973	0	0	0	0	0	0	1,320
	163	167	388	2,085	0	0	0	0	0	0	1,614
55-59	2	364	460	1,940	448	0	0	0	0	0	3,214
	136	244	485	2,203	2,226	0	0	0	0	0	1,737
60-64	22	862	1,068	906	2,739	248	0	0	0	0	5,845
	115	266	565	887	1,999	2,472	0	0	0	0	1,322
65-69	320	1,203	1,589	1,362	1,341	1,163	74	0	0	0	7,052
	102	285	638	1,004	1,440	2,384	2,926	0	0	0	1,089
70-74	298	1,201	1,368	1,157	929	522	254	9	0	0	5,738
	104	311	673	1,037	1,476	2,095	2,947	2,731	0	0	1,004
75-79	195	927	1,201	841	608	308	141	56	2	0	4,279
	111	319	703	1,068	1,444	2,030	2,692	3,095	7,733	0	966
80-84	97	679	820	613	412	192	77	41	3	0	2,934
	117	333	733	1,039	1,353	1,747	2,219	2,441	2,586	0	902
85-89	27	319	380	287	183	88	32	9	5	0	1,330
	161	354	732	1,044	1,298	1,557	1,710	2,140	2,953	0	871
90-94	13	107	102	91	54	29	14	4	0	0	414
	231	366	760	1,021	1,244	1,524	1,782	1,609	0	0	858
95 & Over	2	13	26	13	7	5	3	2	2	1	74
_	257	319	836	1,007	1,307	1,366	1,452	1,671	1,883	2,142	933
TOTAL	979	5,818	7,215	8,183	6,721	2,555	595	121	12	1	32,200
	110	298	646	1,419	1,715	2,203	2,688	2,703	3,480	2,142	1,157

# Exhibit 10.5d Distribution of Retired Employees by Average Age, Average Years of Service and Average Monthly Annuity All Groups as of June 30, 2005

CURRENT AGE											
_	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45+	TOTAL
Under 55	7	279	435	2,884	0	0	0	0	0	0	3,605
	109	219	390	2,445	0	0	0	0	0	0	2,020
55-59	8	748	997	6,220	1,404	0	0	0	0	0	9,377
	305	261	525	2,523	2,551	0	0	0	0	0	2,132
60-64	44	1,544	2,121	1,858	7,245	873	0	0	0	0	13,685
	124	293	620	964	2,332	2,749	0	0	0	0	1,670
65-69	527	2,091	2,944	2,580	2,824	3,609	311	0	0	0	14,886
	115	318	681	1,075	1,618	2,681	3,224	0	0	0	1,394
70-74	524	2,102	2,514	2,177	2,049	1,600	1,285	52	0	0	12,303
	118	338	725	1,127	1,666	2,358	3,141	3,501	0	0	1,337
75-79	332	1,598	2,079	1,675	1,499	1,190	641	254	7	0	9,275
	126	349	747	1,157	1,642	2,256	2,774	3,464	4,828	0	1,286
80-84	167	1,145	1,488	1,379	1,115	702	350	149	26	0	6,521
	133	360	771	1,151	1,505	1,993	2,531	2,701	3,552	0	1,170
85-89	55	548	679	645	506	316	166	66	24	1	3,006
	168	379	784	1,096	1,417	1,779	2,024	2,260	2,929	3,731	1,096
90-94	30	201	230	206	149	83	52	23	13	1	988
	214	382	798	1,063	1,312	1,546	1,779	1,961	2,088	2,579	989
95 & Over	3	34	53	50	22	21	10	6	7	1	207
_	251	351	826	1,059	1,310	1,420	1,444	1,799	1,961	2,142	1,010
_											
TOTAL	1,697	10,290	13,540	19,674	16,813	8,394	2,815	550	77	3	73,853
	125	326	687	1,742	1,995	2,460	2,894	3,035	3,082	2,817	1,508

# Exhibit 10.5e Distribution of Retired Employees by Average Age, Average Years of Service and Average Monthly Annuity Retirement Benefits Awarded Under the Plan During Year Ended June 30, 2005

CURRENT					YEARS	OF SERV	/ICE				
AGE											
<b>-</b>	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45+	TOTAL
Under 55	1	100	127	1,125	0	0	0	0	0	0	1,353
	69	172	357	2,519	0	0	0	0	0	0	2,141
55-59	3	186	211	1,347	271	0	0	0	0	0	2,018
	601	278	557	2,399	2,366	0	0	0	0	0	2,004
60-64	38	296	412	406	909	60	0	0	0	0	2,121
	125	291	593	987	2,234	2,561	0	0	0	0	1,377
65-69	145	199	200	157	99	162	4	0	0	0	966
	96	268	559	1,002	1,393	2,712	2,649	0	0	0	957
70-74	63	91	50	44	23	11	23	1	0	0	306
	71	221	484	817	1,316	1,253	3,382	2,658	0	0	684
75-79	16	30	22	16	24	10	5	6	0	0	129
	75	177	509	867	1,139	1,642	1,593	2,181	0	0	747
80-84	6	12	17	15	10	3	9	3	0	0	75
	47	250	451	704	1,151	1,872	2,016	3,120	0	0	882
85-89	2	3	8	5	0	1	1	2	0	0	22
	104	201	743	584	0	1,815	1,335	1,209	0	0	693
90-94	0	2	4	4	1	0	1	1	0	0	13
	0	409	509	744	704	0	2,520	2,759	0	0	909
95 & Over	0	0	0	2	0	0	0	0	0	0	2
	0	0	0	151	0	0	0	0	0	0	151
_											
TOTAL	274	919	1,051	3,121	1,337	247	43	13	0	0	7,005
	97	259	542	2,144	2,154	2,553	2,752	2,329	0	0	1,597

Exhibit 10.6 Employees in Active Service as of June 30, 2005 by Annual Salary

Annual Salary	Number of Employees	Percent of All Employees
Less than \$10,000	11,205	5.3%
\$10,000-\$14,999	15,445	7.3%
\$15,000-\$19,999	14,375	6.8%
\$20,000-\$24,999	17,207	8.1%
\$25,000-\$29,999	19,433	9.2%
\$30,000-\$34,999	22,106	10.4%
\$35,000-\$39,999	25,589	12.1%
\$40,000-\$44,999	22,303	10.5%
\$45,000-\$49,999	16,933	8.0%
\$50,000-\$54,999	12,798	6.0%
\$55,000-\$59,999	9,287	4.4%
\$60,000 and over	25,521	12.0%
Total	212,202	100.0%

### Exhibit 10.7 Retirement Benefits in Force on June 30, 2005 by Monthly Amount

Monthly Amount	Number of Retirees	Percentage of All Retirees
Under \$300	7,741	10.5%
\$300-\$499	7,371	10.0%
\$500-\$999	16,796	22.7%
\$1,000-\$1,499	12,501	16.9%
\$1,500-\$1,999	8,198	11.1%
\$2,000-\$2,499	6,654	9.0%
\$2,500-\$2,999	5,678	7.7%
\$3,000 and over	8,914	12.1%
Total	73,853*	100.0%

<sup>\*</sup> Excludes 111 System beneficiaries receiving COLA benefit from the Plan.

Exhibit 10.8 - Number of Retirees by Benefit Options

### **Optional Form of benefit**

Amount of Monthly Benefit	1	2	3	4	5	6	7	Total	
\$1 - \$299	4,796	308	392	520	1,395	117	213	7,741	
\$300 - \$499	4,189	382	591	452	1,329	170	258	7,371	
\$500 - \$999	9,207	872	1,504	943	2,699	616	955	16,796	
\$1000 - \$1499	6,091	760	1,319	561	2,173	674	923	12,501	
\$1500 - \$1999	3,770	449	696	439	1,573	539	732	8,198	
\$2000 and over	9,918	743	1,201	1,249	4,399	1,668	2,068	21,246	
Total	37,971	3,514	5,703	4,164	13,568	3,784	5,149	73,853	

### **Optional form**

- 1 Life annuity
- 2 Life annuity 5 years certain and life
- 3 Life annuity 10 years certain and life
- 4 Life annuity 15 years certain and life
- 5 Joint annuity 100% to contingent survivor
- **6** Joint annuity 66 2/3% to contingent survivor
- 7 Joint annuity 50% to contingent survivor

Exhibit 10.9
Growth of Covered Payroll and Active Participants

	Active Members		Covered	Payroll	Average Salary		
Year Ending June 30,	Number	Percent Increase	Amount in \$ Millions	Percent Increase	Amount	Percent Increase	
1980	101,666	1.6%	\$ 1,373	9.7%	\$ 13,503	7.9%	
1981	103,222	1.5%	1,567	14.1%	15,189	12.5%	
1982	103,841	0.6%	1,734	10.7%	16,701	10.0%	
1983	103,174	(0.6%)	1,841	6.2%	17,846	6.9%	
1984	103,889	0.7%	1,906	3.5%	18,345	2.8%	
1985	107,695	3.7%	2,120	11.2%	19,684	7.3%	
1986	114,456	6.3%	2,361	11.4%	20,632	4.8%	
1987	117,426	2.6%	2,478	5.0%	21,100	2.3%	
1988	119,073	1.4%	2,818	13.7%	23,664	12.2%	
1989	124,436	4.5%	2,994	6.2%	24,057	1.7%	
1990	129,701	4.2%	3,212	7.3%	24,762	2.9%	
1991	134,751	3.9%	3,453	7.5%	25,625	3.5%	
1992	139,633	3.6%	3,616	4.7%	25,896	1.1%	
1993	144,477	3.5%	3,748	3.7%	25,943	0.2%	
1994	154,901	7.2%	4,126 <sup>1</sup>	3.2% <sup>2</sup>	26,635	2.7%	
1995	155,444	0.4%	4,432	7.4%	28,513	7.1%	
1996	159,572	2.7%	4,632	4.5%	29,029	1.8%	
1997	164,390	3.0%	4,836	4.4%	29,420	1.3%	
1998	170,864	3.9%	5,164	6.8%	30,224	2.7%	
1999	176,368	3.2%	5,488	6.3%	31,116	3.0%	
2000	183,924	4.3%	5,894	7.4%	32,045	3.0%	
2001	191,252	4.0%	6,357	7.9%	33,237	3.7%	
2002	198,870	4.0%	6,989	9.9%	35,145	5.7%	
2003	202,398	1.8%	7,297	4.4%	36,052	2.6%	
2004	205,482	1.5%	7,486	2.6%	36,429	1.0%	
2005	212,202	3.3%	8,032	7.3%	37,853	3.9%	

Exhibit 10.10
Growth of Retired Participants

	N	ew Retirees		sabled Members LTD Program		All Retirees	All Disabled Members on LTD Program		
Year Ending June 30,	Number	Average Monthly Benefit	Number	Average Monthly umber Benefit Numb		Average Monthly Benefit	Number	Average Monthly Benefit	
1984	4,743	\$ 684	_	_	23,166	\$ 410	_	_	
1985	802	304	_	_	23,686	447	_	_	
1986	1,952	541	_	_	25,213	469	_	_	
1987	1,677	707	_	_	26,577	505	_	_	
1988	1,938	792	_	_	28,575	535	_	_	
1989	3,405	1,105	_	_	31,396	603	_	_	
1990	2,117	859	346	\$ 986	33,385	659	346	\$ 986	
1991	2,209	825	215	941	34,907	687	699	957	
1992	2,303	861	517	958	36,490	703	1,104	973	
1993	3,954	1,173	519	865	39,684	812	1,455	919	
1994	2,280	934	503	860	41,044	852	1,780	892	
1995	3,223	1,008	617	951	43,378	878	2,130	878	
1996	3,845	1,121	704	928	45,975	920	2,507	929	
1997	3,578	1,097	599	1,036	49,743	945	2,746	954	
1998	3,353	1,062	669	1,150	51,917	982	3,063	983	
1999	4,380	1,326	819	1,141	55,104	1,024	3,680	1,023	
2000	4,822	1,490	547	1,425	58,038	1,125	3,595	1,070	
2001	4,224	1,465	632	1,455	58,920	1,211	3,904	1,151	
2002	3,954	1,677	626	1,281	60,346	1,371	4,485	1,077	
2003	5,955	1,578	1,001	1,106	64,697	1,401	4,561	1,027	
2004	6,430	1,565	865	1,388	68,931	1,432	4,684	1,091	
2005	7,005	1,597	733	1,426	73,853	1,508	4,939	1,107	

### Summary of the Benefit Provisions of the Retirement Plan as of June 30, 2005

The Arizona State Retirement Plan makes provision for the retirement, disability, and death and survivor benefits to all employees of the State, instrumentalities of the State and certain political subdivisions. The major provisions of the Plan may be summarized as follows:

#### A. RETIREMENT BENEFITS

### 1. Normal Retirement Date (the earliest of the following):

- (a) an employee's sixty-fifth birthday,
- (b) an employee's sixty-second birthday and completion of at least ten years of credited service, or
- (c) the first day immediately following the day that the sum of the employee's age and his years of total credited service equals eighty.

### 2. Monthly Life Annuity

The product of a benefit multiplier (as determined below) and the participant's best 36-month average compensation (in last 120 months) multiplied by his or her years of total credited service. Members who commenced membership prior to 1984 can use a 60-month average and include additional types of compensation, if doing so produces a larger result.

Years of Credited Service	Benefit Multiplier				
Less than 20	2.10%				
20.0 to 24.99	2.15%				
25.0 to 29.99	2.20%				
30 or more	2.30%				

Note: Members hired after the effective date of the adoption of the graded multiplier have a maximum benefit equal to 80% of their 36-month final average earnings.

### 3. Normal Retirement Benefits

The sum of the monthly life annuity and any prior service benefits to which the employee was entitled under the System.

#### 4. Early Retirement

Age 50 with 5 or more years of credited service.

### 5. Early Retirement Benefits

If not eligible for normal retirement and at least age 50 with 5 years of total credited service, normal retirement benefit earned to the date of retirement, reduced according to the following table:

	AGE AT DATE OF RETIREMENT															
Years of Servic e	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65
5-10	35 %	40 %	45 %	50 %	55 %	60 %	65 %	70 %	75 %	80 %	85%	88%	91%	94%	97%	100 %
10-19	44 %	49 %	54 %	59 %	64 %	69 %	74 %	79 %	84 %	89 %	94%	97%	100 %	100 %	100 %	100 %
20+	50 %	55 %	60 %	65 %	70 %	75 %	80 %	85 %	90 %	95 %	100 %	100 %	100 %	100 %	100 %	100 %

Provided, however, that if the employee meets the Rule of 77 (but not the Rule of 80), the reduction will be 3% for each unit below 80.

### 6. Normal Form of Benefit

Straight life annuity payable monthly with benefits commencing on the day following the date of termination of employment.

### 7. Optional Forms:

- (a) joint and contingent annuity (with Pop-up) with either 100%, 66-2/3% or 50% of the reduced retirement income payable for the life of the contingent annuitant upon the death of the retiring participant,
- (b) period certain and life annuity (with Pop-up) with five, ten, or fifteen years of payments guaranteed, or
- (c) a social security leveling option combined with any of the other forms of payment.

### 8. Minimum Benefit

The minimum monthly benefit payable to a retired member who is at least age 75 and who has 20 or more years of service is \$600.

### B. DISABILITY BENEFITS (for disability after June 30, 1988)

### 1. Long Term Disability

Monthly benefit equal to two-thirds of monthly compensation, reduced by any social security disability or workers' compensation benefits, payable commencing six months after date of disability until the earlier of:

- (a) date of cessation of total disability, or
- (b) normal retirement date.

This benefit is paid by a separate LTD plan.

### 2. <u>Disability Payments if Participant Remains Disabled Through Normal Retirement Date</u>

Monthly benefit participant would have received if service had continued to normal retirement date assuming the participant's salary remained at the level it was at his or her date of disability, also provided that the amount of total credited service is limited to 30 years unless he or she had more than 30 years at date of disability.

- 3. The minimum monthly benefit payable to a disabled participant is \$50.00.
- C. DISABILITY BENEFITS (for disability before July 1, 1988)
  - 1. Eligibility

Age 50 with 5 years of service.

### 2. Benefit Amount

A life annuity that can be provided by the employee's contribution account. Disability payments after normal or early retirement eligibility are reduced by the actuarial value of the disability payments made up to the date of normal or early retirement eligibility.

### D. PRE-RETIREMENT DEATH BENEFITS

#### 1. Eligibility

Applicable if death occurs prior to retirement.

### 2. Benefit

Any one of the following, at the option of the beneficiary:

- (a) a lump sum equal to the sum of (i) and (ii):
  - (i) two times participant's contributions to the plan, with interest, and
  - (ii) the amount of the participant's employee and employer accounts, along with supplemental credits, if any, transferred from the System to the Plan, with interest

(b) if (a) is greater than \$5,000, the beneficiary may elect to receive a monthly income for five or ten years certain and life thereafter which is actuarially equivalent to the amount in (a).

# 3. <u>Death of an Active Participant After 15 Years of Credited Service or After Eligibility for Early Retirement</u>

Beneficiary receives a benefit in the form of a survivor annuity equal to the benefit that would have been payable to the beneficiary if the participant had retired on the date of his or her death and elected to receive an annuity payable in the form of joint and 100% survivor with the beneficiary named as the joint pensioner.

#### E. VESTING OF BENEFITS

### 1. Vesting

A participant is fully vested in his or her accrued benefit.

## 2. Benefits Upon Vesting

A fully vested participant is entitled to either:

- (a) the enhanced refund option, or
- (b) the retirement benefit payable at normal retirement earned to the date of participant's termination.

The enhanced refund option allows employees who terminate prior to eligibility for retirement to receive a refund of their employee contributions with interest. In addition, if an employee has at least five years of service, he or she is also entitled to a share of the employer contributions with interest. The share is 25% for employees with five years of service and increases 15% for each additional year of service up to a maximum of 100% for ten or more years of service. The Board reduced the interest rate to be credited on refund of contributions from 8% to 4%, effective June 30, 2005.

#### F. RETIREE HEALTH INSURANCE PREMIUM SUPPLEMENT

### 1. Eligibility

Retirement or disability after 5 years of credited service and covered by an employer-sponsored group insurance program for which the retired or disabled member must pay part of the cost. Employees who elect the enhanced refund option are not eligible for this benefit.

## 2. Benefit

The benefit is payable only with respect to allowable health insurance premiums for which the participant is responsible. The maximum benefits for participants with 10 or more years of service are:

- (a) with respect to premiums paid for retirees with member only coverage:
  - \$150 per month if the retiree is under age 65

- \$100 per month if the retiree is 65 or over
- (b) with respect to premiums paid for retirees with family coverage:
  - \$260 per month if the member's dependents are under age 65
  - \$170 per month if the member dependent is 65 or over
- \$215 per month if the member is over age 65 and the dependent is under age 65
- \$215 per month if the member is under age 65 and the dependent is over age 65

For employees with five to nine years of service the benefits are the same dollar amounts as above multiplied by a vesting fraction equal to 10% for each completed year of service (i.e., 50% to 90%).

See Section W for a discussion of the temporary benefit payable to retirees in "Rural" coverage areas.

# G. AUTOMATIC COST OF LIVING ADJUSTMENT BASED ON EXCESS INVESTMENT EARNINGS

## Permanent Benefit Increase (PBI)

Retirees who have been retired one year and LTD members are eligible for a COLA up to a maximum of a 4% increase. The COLA is paid from a reserve of "Excess Investment Earnings." If there are no "Excess Investment Earnings" in reserve then no COLA is paid.

### Permanent Benefit Increase Enhancement

Provides retired members with at least ten years of service who have been retired five or more years an additional benefit. For each complete 5-year period the member has been retired an incremental benefit is paid if monies to pay the benefit are available. This benefit is funded by an interest credit of 8.0% of the reserve for future PBIs.

#### H. EMPLOYEE AND EMPLOYER CONTRIBUTIONS

The contribution rate for the biennium beginning on July 1<sup>st</sup> of the odd numbered year is based on the results of the most recent actuarial valuation as of the last day of the even numbered plan year preceding the biennium. Participants' contribution rate is equal to the required employer contribution rate. For the biennium July 1, 2003, to June 30, 2005, the required contribution rate is 5.20%. For the biennium July 1, 2005, to June 30, 2007, the required contribution rate would have been 7.75%, based on the 2004 actuarial valuation. Legislative action pegged the contribution rate for fiscal 2006 and 2007 at 6.90% and 8.60%, respectively.

# I. LEGISLATED PLAN CHANGES ENACTED BY THE 1989 LEGISLATURE OF THE STATE OF ARIZONA

### 1. Projected United Credit (PUC) Funding Method

Beginning with the June 30, 1989, actuarial valuation, the total employee and employer contributions payable beginning July 1, 1990, shall be determined using the Projected Unit-Credit (PUC) funding method.

## 2. \$12,000 Minimum Average Compensation for Current Retirees

Recalculation of the retirement benefit for all plan members retired before June 30, 1989, who had 10 years of credited service using a minimum average compensation of one thousand dollars per month.

## 3. 2.0% Ad Hoc COLAs

- Effective July 1, 1989, all members retired on or before June 30, 1988, shall receive a 2.0% permanent benefit increase to their December 31, 1988, base benefit.
- Effective July 1, 1990, all members retired on ore before June 30, 1989, shall receive a 2.0% permanent benefit increase to their June 30, 1990, base benefit.

## 4. Early Retirement Window

During the period of May 15, 1989, through November 14, 1989, a member who is eligible for either Normal Retirement or Early Retirement with age plus credited service at least equal to 80, may retire and receive a benefit calculated using a 2.2% multiplier instead of the 2.0% multiplier in effect at that time.

### 5. 3.0% Tax Equity Allowance

Retroactive to the later of January 1, 1989, or the date payments commence, each member retiring on or before September 14, 1989, shall receive a tax equity benefit allowance consisting of a permanent increase of 3.0% in his or her January 1, 1989, base benefit.

# J. LEGISLATED PLAN CHANGES ENACTED BY THE 1990 LEGISLATURE OF THE STATE OF ARIZONA

### 1. Rule of 82

Effective May 1, 1990, the number of points (sum of member's age and years of service) required to be eligible for normal retirement shall be reduced from 85 to 82. Also, the early retirement reduction factor for employees with 77 or more points but less than 82 points shall be 3% for each point or fraction thereof less than 82.

## 2. 3.0% Tax Equity Allowance

Each member who retires between September 15, 1989, and September 14, 1990, shall receive a tax equity benefit allowance consisting of a permanent increase of 3.0% in his or her base benefit, retroactive to the date of retirement.

## 3. Graded Vesting for Health Insurance Premium Supplement

The Health Insurance Premium Supplement is extended to those qualifying members with between five and nine years of service. The member will be eligible to receive 10% of the benefit for each completed year of service (i.e., 50% to 90%).

# K. LEGISLATED PLAN CHANGES ENACTED BY THE 1991 LEGISLATURE OF THE STATE OF ARIZONA

### 1. 3.0% Tax Equity Allowance

Each member who retires between September 15, 1990, and September 14, 1991, shall receive a tax equity benefit allowance consisting of a permanent increase of 3.0% in his or her base benefit, retroactive to the date of retirement.

## 2. Recalculation of Retiree Benefits Using 2.0% Benefit Multiplier

Each retired member with at least 10 years of service who retired prior to June 30, 1985 shall have his or her benefit recomputed. The recomputed benefit shall be equal to 2% times final average earnings times credited service plus an additional \$2 for each year of service. The retired member will receive the larger of the recalculated benefit or his/her current benefit. This increase is effective October 1, 1991.

### 3. 2.3% Ad Hoc Increase

Effective July 1, 1991, all members retired on or before June 30, 1990, shall receive a 2.3% permanent benefit increase in their June 30, 1991, base benefit.

#### 4. Rule of 80

Effective July 1, 1992, the number of points (sum of member's age and years of service) required to be eligible for normal retirement shall be reduced from 82 to 80. (For continuation purposes this legislation is not reflected until the 1993/94 fiscal year).

### 5. Pop-up Option

A pop-up option is added for retiring members who first participate in the Plan on or after December 31, 1991.

# L. LEGISLATED PLAN CHANGES ENACTED BY THE 1992 LEGISLATURE OF THE STATE OF ARIZONA

## 1. 3.0% Tax Equity Allowance

Each member who retires between September 15, 1991, and September 14, 1992, shall receive a tax equity benefit allowance consisting of a permanent increase of 3.0% in his or her base benefit, retroactive to the date of retirement.

### 2. Minimum Retiree Benefit

Each retiree of the Arizona State Retirement Plan who is at least age 75 on December 31, 1992, and who had at least ten years of service upon retirement from the plan ten years of service upon retirement from the plan shall be eligible for a minimum benefit. If the eligible retiree had at least ten years of service but less than fifteen years, his minimum benefit is \$350 a month. If the eligible retiree had at least fifteen years of service but less than twenty, his minimum benefit is \$500. If the eligible retiree had at least twenty years of service his minimum benefit is \$600. The minimum benefit shall be compared to the retiree's current benefit (including all ad hoc increases).

## 3. 5% Ad Hoc Increase

Effective November 1, 1992, all members retired on or before October 31, 1992, shall receive a 5% permanent benefit increase in their October 31, 1992, benefit.

## 4. Forfeited Service Repurchase

Any present active member who has previously forfeited service has until December 31, 1994, to repurchase the forfeited service by paying the Plan the employee and employer contributions (accumulated with interest) that would have been contributed during the member's period of forfeited service.

#### 5. Repurchase of Service Due to Reduction in Force

Any present active member who was terminated prior to December 31, 1992, as a result of a required reduction in force may purchase the credited service for the following period of unemployment if the member had five or more years of service at the time of termination and resumed employment with a participating employer within two years of termination. The cost of the repurchase is the total of the employee and employer contribution (accumulated with interest) that would have been contributed during the member's period of unemployment.

### 6. Change in Section 38-781.05 Funding Method

Section 38-781.05 of the plan was amended so that the funding period for the Plan would continue to be the period between valuation and June 30, 2003, as long as the Plan has a negative Unfunded Actuarial Accrued Liability. If the Plan were to have a positive UAAL, then the old funding mechanism would apply.

# M. LEGISLATED PLAN CHANGES ENACTED BY THE 1993 LEGISLATURE OF THE STATE OF ARIZONA

- 1. No benefit changes were passed by the 1993 Legislature. However, the Legislature passed legislation to reduce the required contribution rate of 4.09% down to 3.14%.
- N. LEGISLATED PLAN CHANGES ENACTED BY THE 1994 LEGISLATURE OF THE STATE OF ARIZONA

### 1. Minimum LTD Benefit

Each member on long-term disability will receive a minimum monthly benefit of \$50.

#### 2. Minimum Retiree Benefit

Each retiree of the Arizona State Retirement Plan who is at least age 75 and who had 20 or more years of service at retirement will receive a minimum monthly benefit of \$600.

## 3. Pop-up Benefit

Members who retired prior to January 1, 1992, and who elected a Joint and Survivor option shall receive a "Pop-up" in their retirement income if their beneficiary predeceases them.

## 4. Excess Investment Earnings COLA

Retirees at least age 55 who have been retired at least one year and members on long-term disability are eligible to receive a cost-of-living adjustment equal to one-half the increase in CPI for the prior calendar year. The COLA will be paid from a reserve of Excess Investment Earnings. If there are no Excess Investment Earnings in reserve, no COLA will be granted.

#### 5. Change in Section 38-737 Funding Period

Section 38-737 was amended to change the funding period of the Plan to a rolling 30-year period. The change is to be phased-in over the next nineteen years. If the Plan ceases to have a surplus, the funding period would immediately go to 30-years.

# O. LEGISLATED PLAN CHANGES ENACTED BY THE 1995 LEGISLATURE OF THE STATE OF ARIZONA

### 1. Change in Maximum Increase Provided by Excess Investment Earnings COLA

The maximum COLA payable from Excess Investment Earnings was increased from 50% to 100% of the increase in the CPI.

## 2. Removal of LTD Benefit from the Plan

The Legislature established a new LTD program and removed the LTD benefit from the Plan. Liabilities for current LTD recipients will be transferred to the new LTD program effective October 1, 1995.

## 3. Creation of Separate Account for the Health Premium Supplement

The Health Premium Supplement benefit is to be separated into a 401(h) account. The assets and liabilities associated with the Health Premium Supplement will be accounted for separately.

- P. LEGISLATED PLAN CHANGES ENACTED BY THE 1996 LEGISLATURE OF THE STATE OF ARIZONA
  - 1. No material changes.
- Q. LEGISLATED PLAN CHANGES ENACTED BY THE 1997 LEGISLATURE OF THE STATE OF ARIZONA
  - 1. Creation of family Health Supplement. Allows unused portion of the Health Supplement of a member or dependent to be used to pay the other recipient's health insurance premium.
  - 2. The calculation methodology for the Excess Investment Earnings COLA was modified.
  - 3. The contribution rate will be determined on a biennial cycle beginning with the 2000 fiscal year.
- R. LEGISLATED PLAN CHANGES ENACTED BY THE 1998 LEGISLATURE OF THE STATE OF ARIZONA
  - 1. No material changes.
- S. LEGISLATED PLAN CHANGES ENACTED BY THE 1999 LEGISLATURE OF THE STATE OF ARIZONA

#### 1. Enhanced Refund Option

Employees who terminate prior to eligibility for retirement may elect to receive a refund of their employee contributions with interest. If the employee has at least five years of service, the employee is also entitled to a share of the employer contributions with interest. The share is 50% with five years of service and increases 10% for each additional year of service to a maximum of 100% for ten or more years of service.

### 2. Benefit Multiplier Increased to 2.1%

The benefit multiplier increased from 2.0% to 2.1% effective July 1, 2000.

## 3. <u>5% Ad Hoc Increase</u>

A 5% retiree ad hoc increase for retirees and beneficiaries effective July 1, 2000.

### 4. Increase in Maximum Service While on LTD

Increase in the maximum amount of service that may be accrued while on LTD from 25 to 30.

## 5. Changes in Permanent Benefit Increase COLA

- a. The maximum aggregate COLA was increased from 3% to 4%.
- b. The threshold for determining "Excess Earnings" was lowered from 9% to 8%.
- c. The limitation of the COLA to the increase in the CPI was removed.

# T. LEGISLATED PLAN CHANGES ENACTED BY THE 2000 LEGISLATURE OF THE STATE OF ARIZONA

1. The age restriction on the Permanent Benefit Increase was eliminated.

# U. LEGISLATED PLAN CHANGES ENACTED BY THE 2001 LEGISLATURE OF THE STATE OF ARIZONA

### 1. Health Insurance Premium Benefit Increase

Increases the health insurance premium benefit for eligible members as follows:

- Benefit for Medicare eligible member with member only coverage increased from \$65 to \$100
- Benefit for non-Medicare eligible member with member only coverage increased from \$95 to \$150
- Benefit for family coverage where member and dependent are non-Medicare eligible increased from \$175 to \$260
- Benefit for family coverage where member and dependent are Medicare eligible increased from \$115 to \$170
- Benefit for family coverage where member is Medicare eligible and dependent is non-Medicare eligible increased from \$145 to \$215
- Benefit for family coverage where member is non-Medicare eligible and dependent is Medicare eligible increased from \$145 to \$215

### 2. Graded Multiplier

Provides a graded multiplier in the retirement benefit formula, increasing with years of service according to the following:

-	0.00 to 19.99 Years of Service	2.10%
-	20.00 to 24.99 Years of Service	2.15%
_	25.00 to 29.99 Years of Service	2.20%

- 30.00 or More Years of Service 2.30%

## 3. Employer Option Service Purchase Incentive

Permits an employer to offer a member who is eligible to retire under the Rule of 80 a contract to work and additional three years of employment. No contributions are made to ASRS during the contract. If the employee completes the contract, then they receive an additional three years of service with the option to purchase three more years of service.

## 4. Permanent Benefit Increase Enhancement

Provides that interest at a rate of 8% be credited on the funds held in reserve for the permanent benefit increase (PBI). This interest will then be used to fund an additional increase for retirees who have at least 10 years of service and who have been retired at least five years. The increase is incremental for each five years of retirement.

### 5. Temporary Rural Health Insurance Premium Benefit

In addition to the premium benefit paid to ASRS retired and disabled members, the Legislature granted a temporary benefit for retired and disabled members who live in areas of the state not served by a managed care program (HMO) and who have 10 years of credited service in the following amounts:

- Benefit for Medicare eligible member with member only coverage of \$170 per month
- Benefit for non-Medicare eligible member with member only coverage of \$300 per month
- Benefit for Medicare eligible members with Medicare eligible dependent with family coverage of \$350 per month
- Benefit for non-Medicare eligible members with non-Medicare eligible dependent with family coverage of \$600 per month
- Benefit for Medicare eligible members with non-Medicare eligible dependent with family coverage of \$470 per month
- Benefit for non-Medicare eligible members with Medicare eligible dependent with family coverage of \$470 per month

### 6. Partial Lump Sum Option

Allows a retiring member to receive a portion of his benefit in a lump sum payment. The lump sum is limited to a maximum of 36 monthly payments. The member's monthly annuity is actuarially reduced to reflect the lump sum payment.

#### 7. Maximum Benefit

Members who are hired after the date the graded multiplier became law have a maximum benefit equal to 80% of the member's 36-month final average earnings.

# V. LEGISLATED PLAN CHANGES ENACTED BY THE 2002 LEGISLATURE OF THE STATE OF ARIZONA

- 1. No material changes.
- W. LEGISLATED PLAN CHANGES ENACTED BY THE 2003 LEGISLATURE OF THE STATE OF ARIZONA

### 1. Temporary Rural Health Insurance Premium Benefit

The Legislature extended the temporary Rural Health Insurance Subsidy for the next two years, from July 1, 2003, to June 30, 2005. The benefit is provided to retired and disabled members who live in areas of the state not served by a Health Maintenance Organization (HMO) and who have 10 years of credited service. The Rural Health Insurance Subsidy now requires "minimum out-of-pocket" payments ranging from \$100 to \$425 per month, depending on the plan and coverage selected.

	Insurance Coverage Without Medicare Parts A & B		Insurance Coverage With Medicare Parts A & B*	
	Single	Family	Single	Family
Required Minimum Out-of-Pocket Payment	\$125	\$425	\$100	\$200
Rural Health Insurance Subsidy (Maximums)	Up to \$300	Up to \$600	Up to \$170	Up to \$350

- Combination plans that include Medicare eligible and non-Medicare eligible retiree and dependent coverage require a \$400 monthly out-of-pocket payment.
- X. LEGISLATED PLAN CHANGES ENACTED BY THE 2004 LEGISLATURE OF THE STATE OF ARIZONA

### 1. Service Purchase Program

The Arizona Legislature revised the method of calculating the cost of service purchases, so that future purchases would be made at true actuarial present value.

#### 2. Early Retirement Incentive Programs

The Arizona Legislature provided that employers that participate in ASRS and offer early

retirement incentives to their employees must notify ASRS of the incentives. ASRS will

determine the cost of the incentives and the employers will pay the cost.

- Y. LEGISLATED PLAN CHANGES ENACTED BY THE 2005 LEGISLATURE OF THE STATE OF ARIZONA
  - 1. Temporary Rural Health Insurance Premium Benefit

The Legislature extended the temporary Rural Health Insurance Subsidy for the next two years, from July 1, 2005, to June 30, 2007. The benefit is provided to Medicare-eligible retirees and disabled members who live in Arizona counties with no Health Maintenance Organization (HMO) service area and who have 10 years of credited service.

## 2. Contribution Rates

The legislature pegged the contribution rates for fiscal 2006 and 2007 at 6.90% and 8.60%, respectively. After fiscal 2007, contribution rates are to be determined annually.